



Construction & Maintenance of Overhead Mains (240V > 66kV)

UE PR 0002

Standard Work Procedure N° 1

This Standard Work Procedure (SWP 1) outlines the Service requirements for the provision of services for the construction and maintenance of overhead mains (240V to 66kV) on the UE network



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1 APPROVAL AND AMENDMENT RECORD

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AMENDMENT OVERVIEW	
August 2012	Review document and add new Section 17.2 – Staked and Reinforced Poles
August 2013	Add new Section 8.11 – Pole Condition
July 2014	Add new Section 8.11 single person tasks Adjust numbering
October 2014	Update Green Book references to newest version Update induction processes
August 2015	Update 8.9 to include drop zone barriers Update 10.2 to reference UE's Incident Management Procedure Update Section 17.3 to include of pole hole covers Addition of UE Electricity Connection & Metering Manual to Section 17.7
September 2016	Add new Section 16 Customer Notification Procedure



2 SCOPE

This Standard Work Procedure 1 (SWP 1) outlines the requirements for the provision and undertaking of construction and maintenance services of overhead mains (240 Volts to 66kV) on the United Energy (UE) electricity distribution network.

2.1 Application

The application of services under this Standard Work Procedure includes, but is not limited to, the following functions for construction and maintenance of overhead mains (240 Volts to 66kV):

- a) Worksite preparation and reinstatement
- b) Overhead infrastructure preparation and installation of overhead plant, overhead conductors and supporting infrastructure
- c) Overhead infrastructure maintenance
- d) Recovery of overhead infrastructure and worksite reinstatement
- e) Installation of overhead conductors, spacers, bridges, connections and pole mounted plant in accordance with regulatory requirements
- f) Recording of data related to the worksite and services provided under this SWP

3 OBJECTIVE

The objective of this SWP is to ensure the construction and maintenance of the UE overhead mains infrastructure (240 Volts to 66kV) is in accordance with VESI, Regulatory and UE policies, procedures and construction and maintenance standards.

At all times, the workplace is to be kept safe for all employees, contractors and members of the public. All work performed must not be detrimental to the quality, performance, function of the network in any way and must be carried out with consideration of the environment.

Contractors must have in place documented systems that ensure:

- a) the safety of personnel, (employees and subcontractors) and the public
- b) that all legislative requirements are met
- c) that their workforce is qualified, licensed/registered, competent, authorised and inducted for the tasks being performed
- d) the safe undertaking of the works, including procedures, work instructions and safe work method statements
- e) the efficient use of plant, personnel and machinery
- f) the identification and control of workplace and environmental hazards
- g) the safe undertaking of high risk construction activities
- h) the reduction of material waste
- i) minimisation of customer inconvenience and reduces network outage times
- j) the best practice standards of diligence, skill, care and efficiency



4 NETWORK ACCESS FOR WORKERS PERFORMING SERVICES

Network access requirements described in this SWP are mandatory and are established by National, VESI and UE standards. Contractors performing OH construction and maintenance services must undertake training and assessment in accordance with all applicable laws and the requirements set out in this SWP and the UE procedures for network access and technical training.

Contractors must at all times, assume full responsibility for ensuring all staff (employees, subcontractors and persons performing associated functions) are assessed as competent in accordance with AQTF or other established standards.

4.1 Qualifications and Licensing

Unless they are employed under a training contract (apprentice or trainee), all persons performing OH construction and maintenance services shall be qualified for the functional role they are undertaking.

Under no circumstances shall non-qualified persons perform any OH construction and maintenance services tasks without the written permission of UE.

Where required all workers shall be licensed or registered for the functional role they are performing or plant they are operating.

4.2 Skills and Competency

Unless they are employed under a training contract and performing an allowed task under supervision, all persons performing OH construction and maintenance services shall be assessed as competent for that task.

Areas of competency relevant to the performance of OH construction and maintenance services tasks are established by the VESI Skills and Training Reference Committee.

Contractors must at all times ensure that persons performing OH construction and maintenance services tasks are holders of an Australian ESI Skills Passport.

Contractors must at all times ensure that persons employed under a training contract, only perform tasks under appropriate supervision and where permitted by the relevant VESI Apprentice Supervision Guideline.

4.3 Authorisation

Contractors must at all times ensure that persons performing OH construction and maintenance services are Authorised according to the relevant requirements of the Electrical Safety Rules for the VESI Distribution Networks (the Green Book) and UE policies and procedures.

The Green Book is applicable to all employees of UE, contractors and their employees and subcontractors working on, near, or in the vicinity of electrical apparatus controlled by UE.



4.4 Induction

Contractors must at all times ensure that persons performing OH construction and maintenance services are:

- a) inducted onto the UE network according to established procedures and
- b) inducted into the contractors business

Unless a company is authorised by UE, inductions shall be performed by UE and shall address:

- a) Applicable Acts and Regulations
- b) OHS responsibilities
- c) UE manuals, procedures applicable to this SWP
- d) network access
- e) network safety,
- f) incident and emergency management and response
- g) environmental management systems
- h) hazard identification and control
- i) HSE committee's
- j) site specific requirements (where required)

5 FUNCTIONAL ROLES FOR OH WORKS

Contractors must at all times ensure that persons performing OH construction and maintenance services shall be Authorised according to the relevant requirements of the Electrical Safety Rules for the VESI Distribution Networks (the Green Book).

5.1 Electrical Workers

Contractors must at all times ensure that persons performing OH construction and maintenance electrical services shall meet all requirements described in Section 3 of this SWP.

5.2 Safety Observers

Contractors must at all times ensure that when necessary, a worker shall be nominated to perform the role of Safety Observer and who shall meet all requirements described in Section 3 of this SWP.

A worker who may be required to perform the role of a Safety Observer must receive appropriate training and be competent in the task being observed and the safe operation of the plant and equipment they may be exposed to during performance of work. The nominated Safety Observer shall be documented on the site risk assessment and shall not undertake any other task while carrying out this role.

5.3 Plant / Equipment Operators

Contractors must at all times ensure that plant or equipment operators:

- a) meet all requirements described in Section 3 of this SWP

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- b) are initially trained in the particular design, operating and safety characteristics of each item of plant or equipment they shall be required to operate for the purpose of the provision of services under this SWP and
- c) have appropriate licence(s) and are competent to operate the relevant plant or equipment and hold any additional competencies as required

5.4 Traffic Controllers

Contractors must at all times ensure that persons performing traffic and pedestrian control activities for OH construction and maintenance works shall be trained according to the requirements described in the current version of:

- a) The Road Management Act 2004 (VIC) and
- b) The Code of Practice for Worksite Safety – Traffic Management, (VIC)

5.5 Other Workers

Contractors must at all times ensure that unless they are effectively supervised, all other persons performing OH construction and maintenance services shall be Authorised according to the relevant requirements of the Electrical Safety Rules for the VESI Distribution Networks (the Green Book).

6 VEHICLES AND PLANT

Contractors must at all times ensure that vehicles and plant used for the provision of services under this SWP are fit for purpose, serviced and maintained in accordance with the manufacturer's specifications and/or Australian Standards.

Risk assessments, pre-use inspections and periodic maintenance inspections in accordance with the relevant laws including the Victorian Occupational Health and Safety Act must be undertaken and in place prior to utilisation for the provision of services under this SWP. Operators of plant, vehicles and equipment must be assessed as competent and Licensed (licence to perform high risk work) to operate that plant, vehicle or piece of equipment prior to utilisation for the provision of services under this SWP.

6.1 Compliance

Contractors must at all times ensure that vehicles and plant used for the provision of Services under this SWP comply with all Australian Standards, State and Commonwealth Laws and Codes of Practice.

6.2 Lifting Equipment

Contractors must at all times ensure that all lifting equipment used for the provision of Services under this Standard Work Procedure complies with the Laws including relevant Australian Standards and that test/certification certificates are available for all lifting equipment.

Persons who are responsible for slinging loads and selecting lifting tackle shall be qualified and hold a dogging license.



7 Elevating Work Platforms (EWPs)

Contractors must at all times ensure that EWP's used for the provision of Services under this SWP comply with the laws and the current version of Australian Standard AS 1418 and:

- a) have the appropriate controls fitted and instruction provided to ensure that the ground operator / Safety Observer can, in an emergency, move the basket clear of overhead conductors and lower the basket to the ground using the battery backup system
- b) for live line works include an appropriate insulated boom and stabilising devices; as required by the above Australian Standard
- c) an EWP check sheet must be completed regularly and be available with each EWP vehicle at all times
- d) the EWP shall be clearly marked with due dates for weight and electrical tests

8 MATERIALS, TOOLS AND EQUIPMENT

8.1 General

Contractors must at all times ensure that materials, tools and equipment are fit for purpose to undertake all tasks safely when used for the provision of services under this SWP and must comply with all Laws (as amended from time to time).

The Contractor must provide all goods, equipment, spare parts, labour and services necessary to perform the services unless otherwise provided by UE or stated in this SWP.

8.2 Tools and Equipment at Worksites

Contractors must at all times ensure that appropriate tools and equipment are available on each worksite for the provision of services under this SWP. All tools and equipment must be inspected and maintained in accordance with any electricity industry or Australian or International Standard.

9 Calibrated Tools, Instruments and Equipment

Contractors must at all times ensure that calibrated tools, instruments and equipment (including all types of safety equipment) used for provision of services under this SWP which require periodic testing and/or calibration must be tagged with a 'Test Due' label to verify currency of calibration and/or in test. Testing must be performed by an authorised competent person in accordance with manufacturer's requirements, the Laws and relevant Australian or International Standards.

10 WASTE MANAGEMENT

Contractors must at all times ensure that the disposal of any waste material, chemical or control of any spill is in accordance with:

- a) the Laws
- b) manufacturer's (generally detailed in the Material Safety Data Sheet) requirements
- c) Authority requirements and
- d) the contractors Environmental Management Systems and Standards

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All waste materials from the provision of services provided under this SWP will be collected and stored securely and/or be removed from the worksite daily.

Preference must be given to recycling before disposal of any waste material occurs.

Contractors:

- a) are directly responsible for the prevention of all littering by their workers
- b) must cause all litter (including papers, tins, bottles and rags) to be cleaned up daily from areas where it is performing the Services and disposed of in the nearest approved refuse disposal area

Hazardous waste (including asbestos containing materials) must be handled, stored and disposed of in accordance with the Laws, the regulatory Authority and/or UE requirements.

11 SAFETY

11.1 Safety Management Systems

The Contractor:

- a) is responsible for providing their own safety management system complying with AS/NZS 4801:2001
- b) must ensure that sub-contractors are managed according to their safety management system
- c) must ensure persons performing services under this SWP follow safety procedures and practices consistent with this SWP, and established industry, UE and Contractor procedures
- d) must verify the application of this SWP by their workers and subcontractors
- e) must advise UE as soon of any occurrence of an incident or injury in accordance with UE requirements

11.2 High Risk Construction Activities

Contractors must at all times ensure that a Safe Work Method Statement (SWMS) is in place when a person is performing a high risk construction activity. An activity is a high risk construction activity if it is part of the work for the provision of services under this SWP and as defined in the Victorian OHS Regulations 2007, Part 5.1; s5.1.3 and Schedule 3.

SWMS must be developed by the Contractor in control of the work and persons performing OH construction and maintenance services under this SWP must comply with the SWMS.

Contractors must at all times ensure and provide evidence when requested that persons who may be exposed to high risk activities have been fully briefed on the hazards and control measures detailed in the SWMS to ensure a safe work environment.

11.3 Hazard Identification and Management

Contractors and/or persons performing OH construction and maintenance services under this SWP must understand their safety obligations and strictly comply with the requirements of the Laws and UE procedures.

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Contractors and/or persons performing OH construction and maintenance services under this SWP must assess the hazards present at each work site and implement effective controls according to the contractors established procedures, e.g. Job Safety Assessment (JSA) / Site Risk Assessment (SRA).

Personnel must complete all activities associated with providing services under this SWP in a safe and professional manner and this shall include the identification of hazards and the implementation of suitable controls.

All personnel must be responsible for ensuring their individual actions do not endanger the health and safety of themselves or others. This outcome shall be based on full utilisation of a person's skills and competency and compliance to relevant standards and work procedures.

11.4 Worksite Conditions and Monitoring

Person/s in control of a worksite must monitor conditions at the worksite to maintain a safe work environment and assess and control any significant change.

During and following completion of services provided under this SWP, the worksite must be maintained and left in a safe, hazard free condition at all times and must be reinstated and maintained to at least a condition satisfactory to UE.

When working on and around customer's premises it is important to consider the security of the site. All gates shall be left as they were found, or closed where deemed necessary for safety, such as providing access to pool and spa areas. Workers shall not prop open pool, spa or livestock gates.

11.5 Safety Incident at Worksite

In the event of any incident that is reportable, Contractors and/or persons performing OH construction and maintenance services under this SWP must STOP OPERATIONS IMMEDIATELY, follow the Contractors' own emergency procedures and contact their supervisor immediately. Escalation, notification and reporting shall be in accordance with UE's Incident Management Procedures.

11.6 Personal Protective Equipment

Contractors and/or persons performing OH construction and maintenance services under this SWP must utilise all Personal Protective Equipment (PPE) as required according to Law, ENA Guidelines, Australian, Industry, Green Book or UE Standards and established good practice.

Contractors and/or persons performing OH construction and maintenance services under this SWP must be clothed in a manner consistent with these requirements and maintain a neat and tidy appearance.

11.7 Communications Cable

Many UE poles now also support communications cables and associated infrastructure. An earthed/bonded strand (catenary) supports many of these cables. When working in proximity to such communications assets, contractors and/or persons performing OH construction and maintenance services under this SWP must ensure all conductive parts within reach,

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including strand wires, which are not actually being worked on, are covered with approved insulating line covers.

11.8 Asbestos Containing Materials

Where there is a likelihood of Asbestos Containing Materials (ACM), contractors and/or persons performing OH construction and maintenance services under this SWP must meet the requirements of the Victorian OHS Regulations 2007, Part 4.3; and Schedules 6, 7 & 8 and shall:

- a) consider the presence of ACM before commencing any task, which includes the potential to disturb the ACM
- b) refer to any available asbestos register
- c) not perform any work directly on ACM and which disturbs the ACM unless the person has undertaken suitable training and has sufficient knowledge, experience and skill to perform the work safely and is wearing and utilising appropriate PPE

11.9 Drop Zone

Contractors and/or persons performing OH construction and maintenance services under this SWP must ensure an area with controlled access is established to safe guard pedestrians, motorists and ground workers against injury or damage by falling material, tools or items of equipment.

Where the work duration is > 30 minutes, the drop zones shall be marked with a suitable barrier tape.

11.10 Working at Heights

Contractors and/or persons performing OH construction and maintenance services under this SWP and in control of the work must Victorian OHS Regulations 2007, Part 3.3 and shall:

- a) develop their own safe system of work (including Safe Work Method Statement(s)) for working at heights and
- b) not perform any work at heights unless the worker has undertaken suitable training and has sufficient knowledge, experience and skill to perform the work safely and is wearing and utilising appropriate Personal Protective Equipment (PPE)

11.11 Single Man Tasks

For the purposes of this Standard, single man tasks are defined as work performed by a single man working party on energised network assets.

1.1.1. High Voltage

It is permissible for an Authorised HV Operator to undertake single person operating tasks in accordance with established industry practice and procedure. For aerial work, such tasks are dependent on the use of HV sticks that allow the Authorised HV Operator to maintain safe clearances to energised conductors.



It is not permitted for any person to perform any other work directly on energised HV assets.

1.1.2. Low Voltage

It is permissible for contractors and/or persons performing construction and maintenance services under this SWP to develop single man tasks for LV work where those tasks do not involve:

- a) working directly on energised LV assets that are supported by a pole
- b) working at a customer's energised POA
- c) pit service jointing utilising work practices that do not use fully insulated jointing methods

11.12 Pole Condition

Contractors and/or persons performing OH construction and maintenance services under this SWP must ensure that poles are safe to work on by undertaking test procedures as described in the VESI Fieldworker Handbook.

Testing may be limited to visual inspection for adjacent structures or where the work is being performed from an EWP, however a safe to climb test shall always be undertaken on the pole being worked on if those works are to be performed from a ladder.

11.13 Radio Frequency

Contractors and/or persons performing OH construction and maintenance services under this SWP must ensure that workers are aware of the possible presence of Radio Frequency Radiation (RFR), emanating from energised telecommunications antenna(s) located on existing UE worksites or other adjacent worksites and the hazard this poses to persons working in front of these antennas. Contractors must ensure that workers have sufficient skills to identify antenna worksites and are aware of RFR avoidance procedures.

12 ENVIRONMENT

12.1 Environment Management Systems

The Contractor:

- a) is responsible for providing their own environmental management system and plan complying with AS/NZS ISO 14001:2004
- b) must ensure persons performing services under this SWP (including sub-contractors) follow procedures and practices consistent with this SWP and the Contractor's Environmental Management Plan, and established UE and Contractor procedures
- c) must advise UE as soon as practicable of any occurrence of a reportable environmental incident

12.2 Monitoring Environmental Conditions

Contractors and/or persons performing OH construction and maintenance services under this SWP must take all reasonable and practicable measures not to cause environmental harm while providing services under this SWP by monitoring the following (but not limited to) environmental conditions:



- a) land (Worksite Management), containment of materials and waste including excavated soils and excavation water
- b) sediment and dust control
- c) vegetation (Declared Noxious Weeds)
- d) noise management
- e) hazardous substances
- f) oil spills
- g) acid sulphate soils
- h) creosote treated poles and surrounding soils
- i) Aboriginal cultural heritage
- j) contaminated storm water (compliance to the Environmental Protection Act)

12.3 Noise Management

Contractors and/or persons performing OH construction and maintenance services under this SWP must be sensitive to the concerns of residents and local businesses. Limits on noise should be considered and complied with while providing services under this SWP.

12.4 Oil Spills

Contractors and/or persons performing OH construction and maintenance services under this SWP must have an oil spill kit available at worksites in the event of a fuel or hydraulic oil leak. Any hydraulic oil or fuel leak is to be contained and cleaned up and the waste and contaminated soil disposed of in accordance with the Laws and EPA requirements for its disposal.

12.5 Aboriginal Heritage

Contractors and/or persons performing OH construction and maintenance services under this SWP must comply with the Laws, the Aboriginal Heritage Act 2006 and take all reasonable and practicable measures to ensure an activity does not harm Aboriginal cultural heritage.

13 PERFORMANCE OF WORKS

13.1 General

Construction components must be installed following safe construction practices and to the standards outlined in the UE Construction Standards and must be the appropriate size and fit for purpose.

13.2 Contractor Responsibilities

1. Contractors and/or persons performing OH construction and maintenance services under this SWP must ensure that services are performed such that only the minimum of disruption to the business community, general public, residents and vehicular and pedestrian traffic will be caused. The duration of site works; construction or maintenance must be kept to a minimum through careful programming and suitable arrangements must be made for access to abutting properties.
2. For worksites located within restricted areas under the control of others such as, but not limited to mine sites, railway property, corrective services institutions or indigenous lands, it is the responsibility of the contractor to obtain required entry permits and entry

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conditions (e.g. site inductions), prior to entering any area to undertake the Services. Contractors and/or persons performing OH construction and maintenance services under this SWP must strictly comply with all conditions of entry.

3. Contractors performing OH construction and maintenance services under this SWP must be responsible for:
 - a) ensuring the performance of the services does not materially interfere with the performance of works being undertaken by any other contractors on the worksite. (By coordinating with any other works associated with the project)
 - b) ensuring its activities do not materially interfere with the activities of businesses or persons occupying land adjacent to or in the vicinity of the worksite
 - c) investigating and resolving to the reasonable satisfaction of UE, any complaint made by a member of the public about the way in which the contractor performs any element of the services
 - d) any damage to the property of UE resulting directly or indirectly from any deficient or defective services or the re-performance of those services provided
 - e) giving prior notice to occupiers of private property that it will perform services and must ensure that the occupiers are not inconvenienced by the services being performed
 - f) ensuring its staff on worksites carry and produce upon request approved identification
 - g) ensuring that any vehicle being used to enter a worksite or to travel from one worksite to another has approved signage attached to the vehicle in a prominent position
 - h) all things necessary to obtain the required approvals from Authorities to obtain access to the worksite; including working within Road Reserves, traffic control permits, notifying and applying for consent where applicable to all Authorities of the services to be performed; notifying all Authorities of commencement / completion of services
 - i) ensuring availability of sufficient quantities of materials, plant, tools and equipment for the uninterrupted progress of services
 - j) notification to UE (according to established requirements), in accordance with UE's Incident Management Procedures

14 MATERIALS

14.1 General

Unless otherwise contracted, contractors and/or persons performing OH construction and maintenance services under this SWP must provide all goods, equipment, spare parts, labour and support functions necessary to perform the services.

All materials and equipment purchased and used for construction of overhead electricity distribution infrastructure must be specified, approved and fit for service products.

14.2 Scrap Materials

The value of all recovered material(s) and equipment shall remain the property of UE and must be taken into account when reconciling material(s) and equipment and comply with scrap materials recovery and recycling processes. The contractor must return all of the material(s) and equipment to the relevant store or nominated location at the completion of services being provided.



15 PREVENTION OF DAMAGE

Contractors and/or persons performing OH construction and maintenance services under this SWP:

- a) are solely responsible for repairs resulting from any damage attributable to its performance of the services, including but not limited to damage to water mains, drains, gas mains, roads, fences, gates, culverts, grids, structural foundations, significant vegetation, electric power cables and mains, communication cables/lines/infrastructure and any other utilities assets
- b) must carry out repairs to the satisfaction of UE, the property owner and any relevant Authority
- c) must notify UE (according to established requirements) after occurrence with details of damage to utilities, services or private property and the agreed restoration plan with the relevant Authority or property owner
- d) when using heavy or tracked plant and equipment, must take appropriate steps to prevent damage to infrastructure such as road surfaces, footpaths, lawns and driveways

16 MAINTENANCE OF BARRICADES AND ENVIRONMENTAL CONTROLS

Contractors and/or persons performing OH construction and maintenance services under this SWP must ensure all excavations (other than pole holes) for services being provided are barricaded to the standard requirements of all Laws including Victorian OH&S regulations and the additional requirements set out below:

- a) necessary signs, barricades and lights, for vehicular and pedestrian management and environmental management must be maintained in place until services being provided (including restoration works) are complete and the hazard ceases to exist
- b) no material recovered from the services being provided shall be placed where the material or any leachate from the material can enter water course or stormwater drainage
- c) inspection and rectification work shall be undertaken to make the worksite safe and prevent environmental harm outside normal working hours

17 SURFACE REINSTATEMENT

- a) Permanent reinstatement of surfaces must be carried out as soon as practicable after completion of backfilling
- b) surfaces removed or damaged during the provision of the services must be reinstated to the original surface levels (within agreed tolerance) with similar material such as concrete, turf, bitumen, asphalt, paving, tiles or as agreed with the Authority or owner and must include the re-establishment of street furniture and gardens

18 WASTE DISPOSAL

Contractors and/or persons performing OH construction and maintenance services under this SWP must ensure:

- a) all waste material is disposed of in accordance with Authority requirements and the worksite must be restored to a clean and safe condition in accordance with the Laws

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- b) all waste construction materials from the provision of services provided under this SWP will be collected and stored securely or removed from the worksite daily
- c) the prevention of all littering by their workers and
- d) must cause all litter (including papers, tins, bottles and rags) to be cleaned up daily from areas where it is performing the services and disposed of in the nearest approved refuse disposal area

19 CUSTOMER NOTIFICATION

Contractors and/or persons performing OH construction and maintenance services under this SWP must:

- a) perform written notifications where required by the UE Customer Charter and the Electricity Distribution Code which states:

Planned interruptions

5.5.1 In the case of a planned interruption, the distributor must provide each affected customer with at least 4 business days written notice of the interruption. The notice must:

- (a) specify the expected_date, time and duration of the interruption; and*
- (b) include a 24 hour telephone number for enquiries.*

5.5.2 The distributor must use best endeavours to restore the customer's supply as quickly as possible

Additional requirements regarding the notification of life support customers, small businesses and community organisations impacted by supply interruptions are described in document № U PR 0027 UEMG Customer Notifications Procedure

- b) attempt to notify (present to) the person in control of the worksite the reason for entry to the worksite (customer's premises) as soon as practical upon arrival. Where this is not practical the worker must notify the customer at the first available opportunity that arises while on the worksite
- c) display identification according to procedures
- d) where practical, comply with customer's reasonable requests, such as a customer wishing to be advised prior to the worker leaving the premises, taking extra care and complying with customer's safety or security requirements while on the customer's property

20 POLES AND ATTACHMENTS

20.1 General

- a) The Contractor and their sub-contractors performing OH construction and maintenance services under this SWP shall determine the existence and location of all assets within the immediate area of the installation so that damage to these assets can be avoided. Information shall be obtained on underground assets through the Dial Before You Dig system (DBYD), telephone 1100 or <http://1100.com.au/default.aspx>. In addition, the customer may be required to obtain a Municipal Council Permit as indicated in the Local Government Act. e.g. road opening permit.

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- b) Contractors and/or persons performing OH construction and maintenance services under this SWP must ensure all poles or materials left unattended (at any time) where pedestrians or vehicles could contact them must be marked/identified/protected in a manner that eliminates hazards as far as reasonably practicable. This must be undertaken by the work group on the worksite.

The following time restraints must be applied to poles left on footpaths and in road reserves:

- a) Rural and Urban Areas - 1 Month

Note: Provided appropriate controls are in place to minimise disruption to vehicular and pedestrian movement and to adequately notify the public of the changed conditions.

- a) Should work be postponed or delayed, the contractor must assess the level of risk if the pole is to be left on site for an extended period exceeding the requirements described above. Any risk assessment must include assessing the site to determine if there is high public exposure; that is, close to locations that are highly frequented by the general public; such as schools, shopping precincts, recreational grounds and community centres.
- b) Where poles are retired, all components of the pole including the butt shall be removed
- c) Where it is determined that the complete butt cannot be removed due to concrete backfill or surrounding infrastructure, removal of the butt to a depth of 300mm below ground level must be achieved.

20.2 Staked and Reinforced Poles

- a) The reinstatement of poles by reinforcement (or 'staking') is permitted on the UE network. All reinforced poles shall be fitted with a label as shown in Figure 1.
- b) Reinforced poles are to be treated as serviceable poles for the purposes of works.
- c) Contractors and their sub-contractors performing OH construction and maintenance services under this SWP shall undertake all necessary safe to climb tests prior to working on reinforced poles.
- d) Contractors and their sub-contractors performing OH construction and maintenance services under this SWP shall undertake all necessary inspections and assessments prior to performing any works adjacent to reinforced poles.

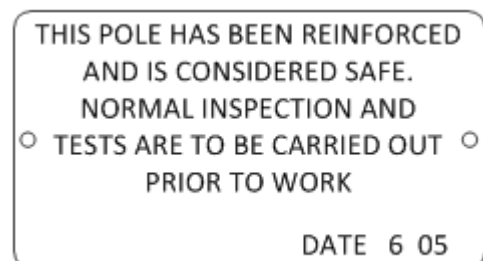


Figure 1

Where a reinforced pole fails a safe to climb test, it shall be made safe according to the Service Providers procedures and the VESI Fieldworker Handbook.

20.3 Pole Positions, Foundations and Holes

- a) Pole positions will be pegged to indicate the centre point of the pole to be installed. Any site specific instructions for the pole installation will be noted on the works plan. These instructions must be followed
- b) Pole foundations (drilled holes) must be excavated on the peg point, (dependant on the location of existing utility assets) to the minimum depth specified in the VESI Fieldworkers Handbook or on the works plan and back filled with the prescribed foundation material in such a manner that the amount of disturbed earth surrounding

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the pole after erection is as small as possible. Depth of pole excavation must be measured from the lowest side of the hole at the ground surface. Regardless of specified backfill, the top 500mm of backfill must be natural earth to facilitate for future pole inspections, (rocks bigger than 75mm must be removed from the 500mm depth of placed backfill)

- c) Where pole excavations are in rock and explosives are to be used for excavation, particular care must be taken to avoid injury to people, damage to property and disturbance of the surrounding ground. The person in control of the blasting must adequately cover up and protect all detonations so that displaced material will not cause damage. ONLY a person licensed in Victoria for the use of explosives, must carry out explosive operations, after first obtaining the necessary Authorisations
- d) Poles, where practical, must be stood on the same day as the excavation of the pole holes. It is the responsibility of the contractor to ensure that excavated pole holes and other excavations associated with the works do not become filled with water as a result of rain or surface water run off
- e) Where a pole hole is to be left open for a period > 1 hour, the hole shall be roofed with a suitable rigid cover which shall be held in place with spoil. Historically the side of a cable drum has been effectively used for this purpose
- f) NOTE that whilst barriers are acceptable, UE consider physically blocking a hole a more effective control than a barrier. This is based on the fact that barriers leave the hole still open and most can be easily pushed aside or climbed over
- g) All pole fittings and constructions must be constructed on the pole(s) in accordance with the UE Construction Manual
- h) Poles constructions must be fitted off in the correct orientation so that the natural bend of the pole is in the same direction as the centre line of conductors when the pole is stood in pole foundation
- i) Scarfing of poles is not permitted
- j) The work crew must drill all holes for fitting components in wood pole(s) at correct centre's and orientation as specified in the UE Construction Manual
- k) Poles with components fitted (dressed) or without, must be lifted into place using an appropriately rated crane and slings. The crane must maintain full control of the pole until the installation and foundation works have been completed. When lifting is in close proximity to energised mains and other structures, live line methods shall be used to reduce the risk of contact and subsequent electrical or mechanical damage

20.4 Steelwork

Contractors and/or persons performing OH construction and maintenance services under this SWP must ensure all structural steel components shall be stainless steel or hot dip galvanised. Where the galvanising on steel components has been damaged during transport or during construction work the integrity of the corrosion protection must be maintained by application of suitable cold galvanised paint to minor damage or by complete replacement of any significantly damaged components.

20.5 Stay Wires

- a) Stay wires must be installed taut prior to the application of overhead load
- b) Where stays are retired, all components and cable of the stay installation to a depth of 300mm below ground level must be removed

20.6 Insulators

- a) Before installation, all insulators must be carefully cleaned, and in particular attention must be paid to the cleaning of the underside of the sheds

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- b) When installing insulators, care must be taken to ensure they are not chipped or damaged.

21 Service Lines

- a) Service lines must be installed in accordance with:
 - i. the UE Construction Manual
 - ii. the UE Electricity Connections and Metering Manual
 - iii. UE 4200-19
 - iv. VESI Service & Installation Rules.
 - v. VESI Installation Supply Connection Tests and Procedures

22 Conductors

- a) Conductors must be strung using methods that prevent damage to conductors, plant and equipment
- b) Tension stringing shall be used in cases when specified
- c) Other methods to run out the conductors shall be allowed, provided that acceptable measures are taken to ensure conductors will not be damaged
- d) The work group must endeavor to make the most efficient use of conductor to keep the number of joints and wastage to a minimum. All conductor joints must be made in accordance with the UE Construction Manual and the VESI Fieldworkers Handbook
- e) Cables and conductors must only be erected with suitable tools and in a manner preventing bird-caging, over tensioning of individual wires, or other deformation or damage to the conductor from occurring
- f) Any damage to the conductor must be repaired in accordance with the UE Construction Manual and the VESI Fieldworkers Handbook
- g) When erecting conductors under and or near existing energised low voltage or high voltage lines, earthed rollers must be used and appropriate protection settings established
- h) Conductors must be sagged equally to the sags nominated on the works plan. Existing conductors are to be suitably re-tensioned to ensure even tension across all conductor spans and statutory clearances and profiles are maintained
- i) The work group must ensure that all fittings/application tools and conductors are correctly sized and matched

23 EARTHING

Contractors and/or persons performing OH construction and maintenance services under this SWP must ensure:

- a) Earthing systems are installed, tested and maintained in accordance with the UE Construction Manual
- b) Earthing systems must be tested and results recorded

24 ELECTRICAL CONNECTIONS

Contractors and/or persons performing OH construction and maintenance services under this SWP must ensure:

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- a) All electrical connections are installed in accordance with the UE Construction Manual and or manufacturer's installation instructions
- b) All conductors, with the exception of ABC, must be prepared for connection by approved methods such as, scratch brushing, removal of insulation and water blocking material and the application of an appropriate grease for the various conductor types
- c) Only suitably sized and fit for purpose compression fittings, connectors and compression dies must be used to connect the various types and sizes of conductor(s)
- d) All Insulation Piercing Connections (IPC's) must be "Depth Checked" (where possible) and the cable "tug tested" immediately after termination in the IPC
- e) Whenever a pole is ascended to undertake works associated with this SWP, then a visual inspection of all existing clamps on low voltage mains and LV overhead service lines must be performed. Should the connectors appear corroded, evidence of heating or the termination unsecured, the connectors shall be maintained ensuring their serviceability or they shall be replaced
- f) All service lines, shall be installed in accordance with the UE Construction Manual and the UE Electricity Connections and Metering Manual and where required and prior to being placed into service, that electrical installations are tested according to the VESI Installation Supply Connection Tests & Procedures
- g) Where required, the bridging in of new low voltage mains or the reconnecting of augmented sections of the LV network, testing to confirm correct polarity and phase rotation must be undertaken

25 POLE MOUNTED PLANT

- a) Pole mounted plant must be installed in accordance with the UE Construction Manual and related instruction material including UE 4200-28
- b) Some items of pole mounted plant, such as transformers and reclosers, are oil filled. When installing or recovering oil filled plant, correct work practices must be employed to prevent oil spillage. Any oil spillage which occurs must be treated in accordance with the contractors Environmental Management System
- c) The Contractor must carry out pre-commissioning checks when pole mounted plant is in its final resting position and complete a data sheet. Where a transformer is installed, the wiring configuration of the transformer neutral bridge must be in accordance with the UE Construction Manual

26 AUDIT AND INSPECTION

Contractors and/or persons performing OH construction and maintenance services under this SWP must ensure:

- a) the auditing of services being provided under this SWP; ensuring all workmanship, materials and equipment utilisation for construction and maintenance of overhead mains strictly complies with this SWP and related procedures.
- b) that audits and inspections review all aspects of the work to verify key requirements of the work and maintenance of quality and safety standards.

UE will undertake audit and inspection of the services being provided under this SWP; ensuring all workmanship, materials and equipment utilised for construction and maintenance of overhead mains strictly complies with this SWP and related procedures.



27 RECORDS

Contractors and/or persons performing OH construction and maintenance services under this SWP must maintain full and accurate, records including but not limited to:

- a) electronic records
- b) correspondence
- c) instructions
- d) internal quality audit inspection reports
- e) plans
- f) drawings
- g) regulated waste tracking documentation
- h) receipts
- i) hazard management measures carried out as part of the services being provided
- j) any complaints and environmental incidents that occurred while providing the services
- k) all work process assessments undertaken
- l) all final product assessments undertaken
- m) accurate and immediate records of any accidents or near-misses must be maintained

28 REFERENCES

UE Construction Standards Manual	UE 4162
UE Network Access	UE PR 0001
UE Standard Work Procedure № 4	UE PR 0005
UE Qualification and Training Standards for Network Access	UE PR 0006
Audit and Inspection of United Energy Field Work Sites	UE PR 0007
UE Electricity Connections and Metering Manual	UE MA 007

29 DEFINITIONS

Authority

Any government or regulatory body, instrumentality, minister, agency, court, tribunal or other Authority with jurisdiction over the activity or thing about which the reference to an Authority is made.

Contractor

Any person, company or organisation engaged to perform any part of the services under this Standard Work Procedure

DBYD

Dial Before You Dig

Green Book

Electrical Safety Rules for the VESI Distribution Networks

High Voltage or 'HV'

Means a nominal voltage exceeding 1000 volts AC, or exceeding 1500 volts DC

Low Voltage or 'LV'

Means nominal voltage exceeding 50 V AC or 120 V DC but not exceeding 1000 V AC and 1500 V DC

Near

Means a situation where there is a reasonable possibility of a person either directly or through any conducting medium (e.g. via mobile plant) coming within the relevant safe approach distances

Safety Observer

A person with the role to observe work undertaken by others, warn the worker or workers of hazards / danger (particularly in relation to electrical work), to stop work should a hazardous situation develop, as well as to perform rescue and resuscitation as required. This person must comply with all the requirements of the Green Book.

Note: A Safety Observer must be used when performing live electrical work unless the work involves testing electrical equipment. A Safety Observer must also comply with any additional requirements set out in other UE

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SWP or manual when performing the role of Safety Observer.

UE

United Energy Distribution Pty. Ltd.

Worksite (Workplace)

Clearly defined immediate area in the vicinity of where services are being provided, or are to be performed by Contractors / Subcontractors including all vehicles, plant and equipment being utilised.

Safe Approach Distance

Means the minimum distance that shall be maintained by a person, vehicle or mobile plant (including its load, controlling ropes and any other accessories) when approaching electrical apparatus other than for work in accordance with an access authority

Service Provider

Means a contractor who has an established Operational and Maintenance Services Agreement with United Energy.

SWP

Standard Work Procedure

Vicinity

Means a situation where it is unlikely that a person will, either directly or through any conducting medium (e.g. via mobile plant), come within the relevant safe approach distances.

VESI

Victorian Electricity Supply Industry