



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

U PR 0003

This Standard Work Procedure (SWP 2) outlines the Service requirements for the provision of services for the construction and maintenance of underground mains (240V to 66kV) on the UE network.



TABLE OF CONTENTS

APPROVAL AND AMENDMENT RECORD	4
1 SCOPE	5
1.1 Application	5
2 OBJECTIVE	5
3 NETWORK ACCESS FOR WORKERS PERFORMING SERVICES	5
3.1 Qualifications and Licensing	6
3.2 Skills and Competency	6
3.3 Authorisation	6
3.4 Induction	6
4 FUNCTIONAL ROLES FOR UG WORKS	7
4.1 Electrical Workers	7
4.2 Safety Observers	7
4.3 Plant / Equipment Operators	7
4.4 Traffic Controllers	7
4.5 Other Workers	8
5 VEHICLES AND PLANT	8
5.1 Compliance	8
5.2 Lifting Equipment	8
5.3 Elevating Work Platforms (EWPs)	8
6 MATERIALS, TOOLS AND EQUIPMENT	9
6.1. General	9
6.2. Tools and Equipment at Worksites	9
6.3. Calibrated Tools, Instruments and Equipment	9
7 WASTE MANAGEMENT	9
8 SAFETY	10
8.1 Safety Management Systems	10
8.2 High Risk Construction Activities	10
8.3 Hazard Identification and Management	10
8.4 Worksite Conditions and Monitoring\	10
8.5 Safety Incident at Worksite	11
8.6 Personal Protective Equipment	11
8.7 Communications Cables	11
8.8 Asbestos Containing Materials	11
8.9 Drop Zone	11
8.10 Working at Heights	11

Construction & Maintenance of Underground Mains (24V > 66kV)



8.11	Radio Frequency	12
9	ENVIRONMENT	12
9.1	Environment Management Systems	12
9.2	Monitoring Environmental Conditions	12
9.3	Noise Management	13
9.4	Oil Spills	13
9.5	Aboriginal Heritage	13
10	PERFORMANCE OF WORKS	13
10.1	General	13
10.2	Contractor Responsibilities	13
11	MATERIALS	14
11.1	General	14
11.2	Scrap Materials	14
12	PREVENTION OF DAMAGE	14
13	MAINTENANCE OF BARRICADES AND ENVIRONMENTAL CONTROLS	15
14	SURFACE REINSTATEMENT	15
15	WASTE DISPOSAL	15
16	CUSTOMER NOTIFICATION	16
17	POLES AND ATTACHMENTS	16
17.1	General	16
18	UNDERGROUND CABLES	16
19	CABLE DEPTH AND MARKING	17
20	EARTHING	17
21	ELECTRICAL CONNECTIONS	18
22	TESTING	18
23	AUDIT AND INSPECTION	18
24	RECORDS	18
25	REFERENCES	19
26	DEFINITIONS	20



APPROVAL AND AMENDMENT RECORD

Document № UE PR 0009 – Workplace HSE Inspection

SPONSOR			
Name:	Adam Beel	Signature:	<i>Adam Beel</i>
Title	Work Practices Manager	Date	09/09/2011

APPROVER			
Name:	Daniel Santos	Signature:	<i>Daniel Santos</i>
Title	Head of HSE & Work Practices	Date	09/09/2011

VERSION	DATE	AUTHOR
1	September 2011	Adam Beel

Amendment overview	
Version	Comment
October 2014	Update Green Book references to newest version Update induction processes
September 2016	Add new Section 16 Customer Notification Procedure
March 2013	Re-brand



1 SCOPE

This Standard Work Procedure 2 (SWP 2) outlines the requirements for the provision and undertaking of construction and maintenance services of underground mains (240 Volts to 66kV) on the United Energy (UE) electricity distribution network.

1.1 Application

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

- a) Worksite preparation and reinstatement
- b) Underground cable and infrastructure preparation
- c) Underground infrastructure maintenance
- d) Recovery of cables and underground infrastructure and worksite reinstatement
- e) Installation of underground cables and infrastructure

Recording of data related to the worksite and services provided under this SWP.

2 OBJECTIVE

The aim of this SWP is to ensure the construction and maintenance of the UE underground mains infrastructure (240 Volts to 66kV) is in accordance with UE policies and construction and maintenance standards.

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

3 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 UG 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.

3.1 Qualifications and Licensing

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

Under no circumstances shall non-qualified persons perform any UG 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.

3.2 Skills and Competency

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

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

Contractors must at all times ensure that persons performing UG 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.

3.3 Authorisation

Contractors must at all times ensure that persons performing UG 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.

3.4 Induction

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

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

Inductions shall be performed by the Contractor 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)

4 FUNCTIONAL ROLES FOR UG WORKS

Contractors must at all times ensure that persons performing UG 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).

4.1 Electrical Workers

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

4.2 Safety Observers

Contractors must at all times ensure that when necessary, a worker shall be nominated to perform the role of Safety Observer under this SWP 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 and/or the requirements to perform the role of a Safety Observer under this SWP. The nominated Safety Observer shall be documented on the site risk assessment and shall not undertake any other task while carrying out this role.

4.3 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
- b) are initially trained and regularly reassessed 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

4.4 Traffic Controllers

Contractors must at all times ensure that persons performing traffic and pedestrian control activities for UG 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)

4.5 Other Workers

Contractors must at all times ensure that unless they are effectively supervised, all other persons performing UG 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 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 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.

5.1 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 relating to transport, holding or shifting plant, loads and component assemblies, EWP utilisation and material handling.

5.2 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.

5.3 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 daily check sheet must be completed daily and available with each EWP vehicle at all times
- d) the EWP shall be clearly marked with due dates for weight and electrical tests



6 MATERIALS, TOOLS AND EQUIPMENT

6.1. 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.

6.2. 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.

6.3. 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.

7 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

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.



8 SAFETY

8.1 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 as practicable of any occurrence of an incident or injury

8.2 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 UGS 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 UG 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.

8.3 Hazard Identification and Management

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

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).

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.

8.4 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.



8.5 Safety Incident at Worksite

In the event of any incident that is reportable, Contractors and/or persons performing UG construction and maintenance services under this SWP must STOP OPERATIONS IMMEDIATELY, follow the Contractors' own emergency procedures and contact their supervisor immediately. Escalation to UE shall follow established procedures.

8.6 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.

8.7 Communications Cables

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

8.8 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) refer to any asbestos register where available
- b) consider the presence of ACM before commencing any task, which includes the potential to disturb the ACM
- 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

8.9 Drop Zone

Contractors and/or persons performing UG 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.

8.10 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



- b) workers must 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)

8.11 Radio Frequency

Contractors and/or persons performing UG 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.

9 ENVIRONMENT

9.1 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

9.2 Monitoring Environmental Conditions

Contractors and/or persons performing UG 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)



9.3 Noise Management

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

9.4 Oil Spills

Contractors and/or persons performing UG 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.

9.5 Aboriginal Heritage

Contractors and/or persons performing UG 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.

10 PERFORMANCE OF WORKS

10.1 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.

10.2 Contractor Responsibilities

1. Contractors and/or persons performing UG 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 conditions prior to entering the restricted areas to undertake the Services. Contractors and/or persons performing UG construction and maintenance services under this SWP must strictly comply with all conditions of entry.
3. Contractors performing UG 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. (Provide coordination 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 their approved identification cards
- 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 traffic control permits, with / without conditions)
 - i. notifying all Authorities of services to be performed
 - ii. 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 the event of the following:
 - i. any reportable network, electrical, safety or environmental incident; or any injury requiring medical attention and or lost time occurred
 - ii. receipt of a complaint from a member of public or any Authority
 - iii. any significant disruption to programme of services being provided
 - iv. any damage to UE or other parties' property or services
 - v. any requirement to amend the scope of services being provided
 - vi. any traffic incidents
 - vii. caused a fault that results in an unplanned outage to the network

11 MATERIALS

11.1 General

Unless otherwise contracted, contractors and/or persons performing UG 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 UG electricity distribution infrastructure must be specified, approved and fit for service products.

11.2 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.

12 PREVENTION OF DAMAGE

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



- a) shall undertake work in accordance with WorkSafe guidance material and in a manner that prevents damage to third party property, in-road infrastructure and other utility assets
- b) 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
- c) must carry out repairs to the satisfaction of UE, the property owner and any relevant Authority
- d) 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
- e) when heavy or tracked plant and equipment is used, must take appropriate steps to prevent damage to infrastructure such as road surfaces, footpaths, lawns and driveways

13 MAINTENANCE OF BARRICADES AND ENVIRONMENTAL CONTROLS

Contractors and/or persons performing UG construction and maintenance services under this SWP must ensure all excavations for services being provided are barricaded to the standard requirements of all Laws including Victorian UG&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 storm water drainage
- c) inspection and rectification work shall be undertaken to make the worksite safe and prevent environmental harm outside normal working hours

14 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

15 WASTE DISPOSAL

Contractors and/or persons performing UG 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
- 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



16 CUSTOMER NOTIFICATION

Contractors and/or persons performing UG 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 No U PR 0027 UEMG Customer Notifications Procedure.

- a) 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.
- b) display identification according to procedures
- c) 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.

17 POLES AND ATTACHMENTS

17.1 General

Refer to the following for detailed information regarding poles, pole positions, foundations, stay wires, pole mounted steel work and insulators.

- a) UE Construction Standards Manual
- b) SWP 1, Construction & Maintenance of Overhead Mains. (240V > 66kV)

18 UNDERGROUND CABLES

- a) Cables must be installed using methods that prevent damage to cables, plant and equipment
- b) Unless being immediately terminated, heat shrink end caps shall encapsulate the ends of all cables at all times to prevent the ingress of moisture and other foreign matter
- c) Tension hauling shall be used in some cases when specified
- d) Other methods to run out the cables shall be allowed, provided that acceptable measures are taken to ensure cables will not be damaged
- e) The work group must endeavour to make the most efficient use of cable to keep the number of joints and wastage to a minimum. All cable joints must be made in accordance with the UE Construction Manual



- f) Cables must only be installed with suitable tools and in a manner preventing damage, compromising the bend radius, or any other deformation or damage to the cable from occurring
- g) Any damage to the cable must be repaired in accordance with the UE Construction Manual
- h) The work group must ensure that all fittings/application tools and cables are correctly sized and matched

19 CABLE DEPTH AND MARKING

- a) All underground cables shall be installed in accordance with the UE Design Manual
- b) Some UE cable depths differ from those prescribed in the 2009 Electricity Safety (Installations) Regulations, shown in Table 1 below. Where it is impractical to lay an underground line at the design depth, refer to the UE Safety Case, Document № 4200-23, Construction of UG Lines
- c) All underground cables shall be clearly marked at the points where the underground line enters or exits the ground
- d) When cables are laid in conduit or direct buried, an orange marker tape to AS/NZS 2648.1 shall be installed at least 150mm over the top of the conduit or cable respectively
- e) Where the cables are installed using boring or drilling techniques, a marker tape is not required to be installed, but constructions drawings shall be noted
- f) For detailed information regarding the marking of UG lines, refer to the UE Safety Case, Document № 4200-25, Marking of UG Lines

TABLE 1 - Minimum regulatory depths for underground lines from the surface of the ground

Type of underground line Nominal voltage ('U')	Directly Buried	Directly buried and covered with a mechanical cover	Buried enclosed in a conduit or pipe
U <1500V direct current	750mm	600mm	500mm
Alternating current $U \leq 1\text{kV}$	750mm	600mm	500mm
Alternating current $1\text{kV} < U \leq 22\text{kV}$	900mm	750mm	750mm
Alternating current $22\text{kV} < U \leq 66\text{kV}$	1000mm	750mm	750mm
Alternating current $66\text{kV} < U \leq 220\text{kV}$	1000mm	1000mm	1000mm

20 EARTHING

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

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



21 ELECTRICAL CONNECTIONS

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

- a) All electrical connections are installed in accordance with the UE Construction Manual and or manufacturer's installation instructions
- b) All cables must be prepared for connection by approved methods
- 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 cables attached to the pole must be performed. Should any cable appear corroded, damaged, evidence of heating or any termination unsecured, repairs shall be carried out to ensure the cable's serviceability or they shall be replaced
- f) Where required, the bridging in or connecting 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

22 TESTING

Contractors and/or persons performing UG construction and maintenance services under this SWP must ensure that where required and prior to being placed into service, that cables are tested according to established procedures.

23 AUDIT AND INSPECTION

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

- a) the continuous auditing of services being provided under this SWP; ensuring all workmanship, materials and equipment utilisation for construction and maintenance of underground 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 underground mains strictly complies with this SWP and related procedures.

24 RECORDS

Contractors and/or persons performing UG 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

25 REFERENCES

UE Construction Standards Manual	UE 4162
UE Network Access	UE PR 0001
UE Standard Work Procedure № 1	UE PR 0002
UE Qualification and Training Standards for Network Access	UE PR 0006
Audit and Inspection of United Energy Field Work Sites	UE PR 0007



26 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 (the Green Book)

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 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