Managing Open Pole Holes within the Victorian Electricity Supply Industry

This guidance note has been developed by the Victorian Electricity Supply Industry (VESI) Work Practices Committee.

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1 INTRODUCTION

The installation of electricity distribution poles at times requires the excavated pole hole to be left open for a short period of time prior to installing a new pole into it.

The size of the pole being stood will determine the diameter and depth of the pole hole to be excavated. Pole hole depths vary from 2.1 metres for an 11 metre, 5 kilonewton (kN) pole (11/5kn) to 2.7 metres for a 20/12kn. The strength or kN of the pole will also determine the diameter of the auger to be used for the pole hole and these range from 300 – 900 mm.

The average pole hole installed within the Victorian Electricity Supply Industry (VESI) however is generally approximately 450mm in diameter and up to 2400mm in depth.

2 PURPOSE

The purpose of this document is to provide practical guidelines for electricity field personnel to identifying and manage the risk associated with open pole holes when working for VESI distribution businesses.

3 SCOPE

This guideline applies to all VESI distribution business employees and contractors when working around open pole holes.

This guideline establishes the minimum practical requirements and individual organisations may supplement this guideline with additional requirements when deemed necessary

4 POLE HOLE EXCAVATION GUIDE

4.1 THE RISK

The hazards and risk associated with open pole holes have been assessed by VESI distribution businesses Work Practice and Health and Safety representative personnel.

The assessment was conducted on works being performed in close proximity to an open pole hole when removing or installing a distribution electricity pole. The hazard and risk identified was that a person could fall from one level to another level when:

- the pole is or has been removed from the original hole
- the immediate surrounding ground is prone to collapse
- preparing the worksite and whilst auguring the pole hole
- the pole hole has been bored and the auger removed/stowed
- installing the pole into the hole
- the pole hole was pre-dug or left open and unattended

4.2 JOB SAFETY ANALYSIS (JSA)

It is a requirement that prior to performing any work that all employees complete a JSA and refer to the appropriate Safe Work Method Statements (SWMS) for High Risk Construction

Work (HRCW). Generally the defined legislative HRCW associated with pole hole excavations can be:

- Work involving a trench or shaft deeper than 1.5 metres
- Work on or near**:**
  - pressurised gas distribution mains or piping
  - chemical, fuel or refrigerant lines, or
  - electrical installations or services
- Work at a workplace where there is any movement of powered mobile plant
- Work on or next to roads or railways that are in use

If the risk assessment identifies there is an unacceptable risk that someone could fall more than two metres, fall prevention should be considered for use, so far as is reasonably practicable.

The risk assessment should consider the security of the open hole, both during work and when left unattended. Consideration also needs to be given to factors such as:

- How long the excavation will be left open
- Who may gain access to the excavation (including the general public and livestock)

To assist in managing the risk of fall from one level to another the following controls should be considered:

- Appoint a Safety Observer to monitor access around the open hole
- Install temporary barricades and/or covers to safeguard the worksite

Other hazards and risks may also be associated with performing a pole extraction, replacement or installation and the JSA and SWMS process shall be used to manage these.

4.3 MANAGING THE OPEN POLE HOLE

4.3.1 IMMEDIATE POLE ERECTION/REPLACEMENT (FIELD WORKERS ONSITE)

Prior to the extraction or excavation commencing, a visual or hand proving assessment of the ground conditions and terrain shall be considered. The management of spoil needs also to be considered as this can impede access around the worksite and cause trip/slip hazards around the open excavation.

As pole extraction or installation requires work to be performed aloft an exclusion zone shall be established in line with the VESI Guidance Note for Drop Zone Management. The establishment of an exclusion zone provides a delineated area around a work location and in this instance around the excavated area.

Non-essential workers should remain outside the exclusion zone where practicable. When a Pole Erection Recovery Unit (PERU) or crane is in use the Operator is in an elevated work position and should monitor access around the pole hole area at all times. If the Operator's vision is restricted or impeded of the pole hole, a Safety Observer may be required to be posted.

4.3.2 MINOR DELAYED POLE ERECTION/REPLACEMENT (FIELD WORKERS ONSITE)

In some instances there may be minor delays which require the pole hole to be left open. In these instances the conditions described within clause 4.3.1 shall be used to manage the any approach to or around the open excavation.

Additional control measures may be required such as the pole hole being covered or protected with a temporary barrier or the PERU auger left in the hole where practicable.

4.3.3 POLE HOLE UNATTENDED

Where there is a need to leave a pole hole open and unattended the hole shall be left in a safe condition

a) For holes left open for a short duration and within the same shift, (i.e. not overnight) a suitable cover can be used if the ground is stable

b) For holes left open for short duration and within the same shift, (i.e. not overnight) a suitable cover and the establishment of an exclusion zone shall be used if the ground stability is uncertain. Barrier tape is suitable in this instance to establish the exclusion zone

c) In all instances where a hole is to be left open outside a shift (i.e. overnight or with nobody in attendance on the job site), the hole shall be covered with a suitable cover and a rigid barrier erected around the pole. Consideration shall be given to whether the hole will be Traversable, close to the road or footpath etc.

4.3.4 NON DESTRUCTIVE DIGGING

Hydro excavation, also called vacuum truck excavation, pot holing or Non-Destructive Digging (NDD) is a method used in some instances to excavate a pole hole within VESI.

When using NDD to excavate a pole hole the Operators using the high pressure jet and vacuum are within close proximity to the open hole.

Whilst this work is in progress the ground conditions should be inspected regularly and non-essential workers restricted from entering the immediate extraction area.

5 REFERENCE

Worksafe Victoria	Compliance Code: Prevention of falls in general construction
Worksafe Victoria	Handbook: Working safely in the general construction industry