
PRECAUTIONS TO BE TAKEN WHEN CARRYING OUT WORK IN THE VICINITY OF ELECTRICITY CABLES

ADVICE TO SITE PERSONNEL

MANAGEMENT NOTE

Please ensure that a copy of this note is read by your site management and to your site operatives.

Early consultation with ESP Utilities Group prior to excavation is recommended to obtain the location of plant and precautions to be taken when working nearby.

This Guidance Note should be read in conjunction with the Health and Safety Executive guidance HSG47 "Avoiding danger from underground services".

1.0 Introduction

This procedure should be read in conjunction with the ESP Electricity Distribution Safety Rules and other relevant procedures. The object of this procedure is:

- a) To lay down the rules for the location of cable before work is started.
- b) To specify the safe working procedure to be adopted by persons who have to work on or in the vicinity of cables.

2.0 Reference

ESP Electricity G81 – Design and Planning
ESP Electricity G81 – Installation and Records
National Joint Utilities Group (NJUG) Guidance Notes
Avoiding danger from underground services HSG47 HSE Advice Booklet.

3.0 Work

- 3.1 All cables and apparatus to which the cables are connected shall be treated as being live, until they have been proved dead and all points of isolation have been established and controlled.
- 3.2 All work carried out under this procedure shall also be carried out in strict accordance with the ESP Electricity Distribution Safety Rules and other relevant procedures.
- 3.3 For the purpose of this procedure:
 - a) Work on a cable includes the intentional cutting or removal of its Sheath or Armour, cutting of its core(s) or conductor(s) and the removal of a spiking gun.
 - b) Work in the vicinity of a cable includes digging or any activity carried out at any work location where cables are or may be present, whether or not for the specific purpose of preparation for work on a cable.

4.0 Cable Locating Devices

- 4.1 An approved cable locating device is to be used on every occasion before any surface is removed or any digging is started. It must also be used during the course of any digging work.
- 4.2 Cable location devices provide information on the position of cables. They must not be used as the only means of cable location.
- 4.3 Cable locating devices must be regularly checked for correct operation.

All persons using cable locating devices must be adequately trained in their use and must be Competent Persons.

5.0 Location of Cables

- 5.1 The depth of underground cables varies greatly. It is essential that a site specific risk assessment is undertaken for the proposed work you are planning this must include obtaining an up-to-date map of the electricity cables in the area and to make use of it. The electricity cable records must be checked before any work is started. Changes in surface level or reference points, and work carried out by other people may affect the reliability of these records. Anybody excavating must be told of these possibilities.
- 5.2 Before the start of any excavation work, a cable locating device shall be used to establish the run of live cables. Reasonable steps should be taken to establish the runs of cables both along and across the length of the intended area of digging. The cable avoidance tool shall be used together with mains records and where provided, service records.
- 5.3 All cable runs either confirmed by use of the cable locating device or indicated on the mains records must be marked out on the surface using a waterproof marker. Marked cable runs must be extended 300mm beyond either end or side of the intended digging area, and must stay visible while the digging is going on. The trial hole dig method can be used to identify the run of cables using hand dig tools only.

6.0 Precautions to be Taken while Working in Vicinity of Cables

- 6.1 Work in the vicinity of cables must be carried out as if the cables are live and all excavation work must be personally supervised by a Competent Person. All persons shall wear a minimum of safety footwear, Safety Glasses, hard hat, Task Specific Gloves flame retardant overalls.
- 6.2 Approved hand tools should always be used in preference to power tools in the vicinity of cables, unless site conditions make this impracticable. Spades should always be used in preference to forks. Extreme care must always be taken when using a fork or pick. Forks must be of approved type with shortened chisel ended tines. Spades must have sharp corners of the blade rounded. The selection of a fork or pick will be assessed on a Task Specific Risk Assessment.
- 6.3 A proprietary air digging tool, which removes soil with a high-velocity jet of air, can be used to expose buried services without damage to the service. However, it will not penetrate asphalt, concrete or frozen ground. Also precautions need to be taken that will prevent injury to the operator and members of the public from ejected soil and other materials.
- 6.4 When site conditions require the use of hand held power tools they must be fitted with a short bit. The following method of work must be used:
- a) Using all the information provided, together with an approved cable locating device, the line of all known cables must be marked out at least 300mm past the hole that will be dug using waterproof marker.
 - b) Encroachment lines must be drawn 300mm parallel to and away from the outer and innermost cable marker lines. And as in (a) above these must be drawn to extend at least 300mm beyond the edge of the hole that will be dug.
 - c) Hand held power tools must not be used below ground level in between the encroachment lines. Hand tools must be used for progressive and careful undermining from outside the encroachment lines towards the cable(s). Hand power tools must only be used to break up any hard surface, keeping pace with, but not going past the undermining. Extreme care must, in particular, be exercised when using power tools above cables already exposed by undermining. The use of power tools must stop if at any time the cutting rate quickens, indicating softer ground. At all times, attention must be paid to the cable run marker lines outside the edges of the holes.
 - d) The safe digging procedure in (c) above must be followed until all cable(s) required for work or for identification have been located.
 - e) If all recorded or detected cables inside the digging area have been located then hand held power tools may be used below ground level to break up concrete or similar structures, but even then only when site conditions render the use of hand tools impractical.
- 6.5 During excavation, full use must be made of cable locating devices which must be used to assist in establishing the exact location of live cables.
- 6.6 Where exposed cables are likely to be damaged in any way they shall be adequately protected and/or supported. Where in the opinion of the person in charge on site it is appropriate, warning notices must be attached to cables e.g. 'live cable exposed above ground level' or 'live coiled cables'.
- 6.7 Irrespective of the color of the electricity cable it shall be considered as being in a 'live' status unless it has been confirmed and proven that the cable has been physically isolated or turned off.

If damage is caused or suspected the following action should be taken at once:

- Remove all personnel from the immediate vicinity
- Contact ESP Electricity Emergency contact Number: 0800 731 6945
- Prevent any approach by the public.
- Assist electricity personnel, Police or Fire Service as requested.

REMEMBER – IF IN DOUBT, SEEK ADVICE FROM ESP Utilities Group.

ESP Utilities Group can be contacted at:

Office Address: Bluebird House, Mole Business Park, Leatherhead, Surrey KT22 7BA

Office Tel: 01372 587500; **Fax:** 01372 377996