



NETWORKS

# SAFE CONSTRUCTION AND THE ELECTRICITY NETWORK





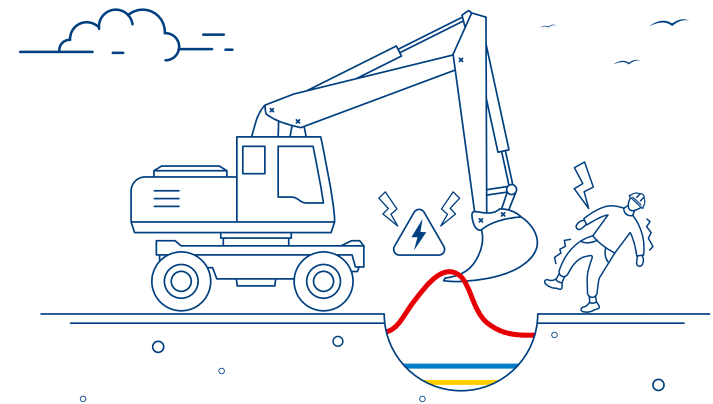
NETWORKS

“ Always check for overhead wires before you start construction work. Serious accidents have occurred when using cranes, concrete delivery trucks, tipper trucks, scaffolding, telescopic lights or carrying long objects near overhead wires. ”

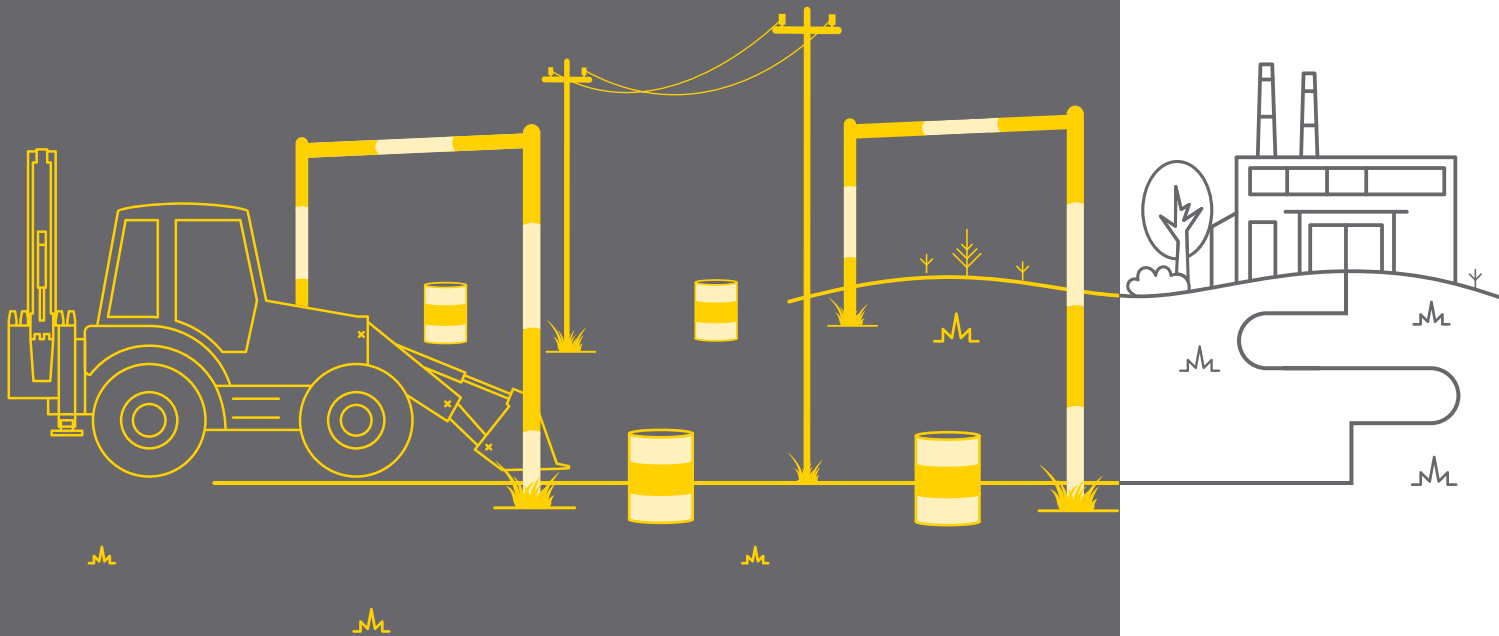
“ Before you start excavation work, contact ESB Networks' 'Dial Before You Dig' service for up-to-date cable maps at [dig@esb.ie](mailto:dig@esb.ie) or 1850 928 960. ”

#staying-safe

## SAFE CONSTRUCTION AND THE ELECTRICITY NETWORK



“  
At the planning stage and before starting work near an overhead line, consult ESB Networks at 1850 372 757.  
”



# INTRODUCTION

Electricity is the driving force of our economy. It is so much a part of modern living that we often take it for granted.

Electricity is delivered across the country using both overhead wires and underground cables. It is a powerful and versatile source of energy, but can be dangerous unless we use safe systems and procedures.

Where safety procedures **have not been followed**, and where construction work has taken place too close to the electricity network, serious accidents have occurred. Sadly, this has included fatalities.

This booklet provides important safety information to help you stay safe when working near overhead wires and underground cables.

Please note that this booklet is for general guidance only and should not be regarded as a substitute for professional advice. Such advice should always be taken before acting on any of the matters referenced in this booklet. You should also make yourself familiar with the requirements of the ESB Networks' Code of Practice for Avoiding Danger from Overhead Lines and the H.S.A. Code of Practice for Avoiding Danger from Underground Services. These can be downloaded from [www.esbnetworks.ie](http://www.esbnetworks.ie).

# SAFETY ADVICE WHEN WORKING NEAR OVERHEAD ELECTRICITY WIRES

The instantaneous power of electricity is such that any accidental contact with live overhead wires, or coming too close to the wires, will cause serious injury - **and can even prove fatal.**

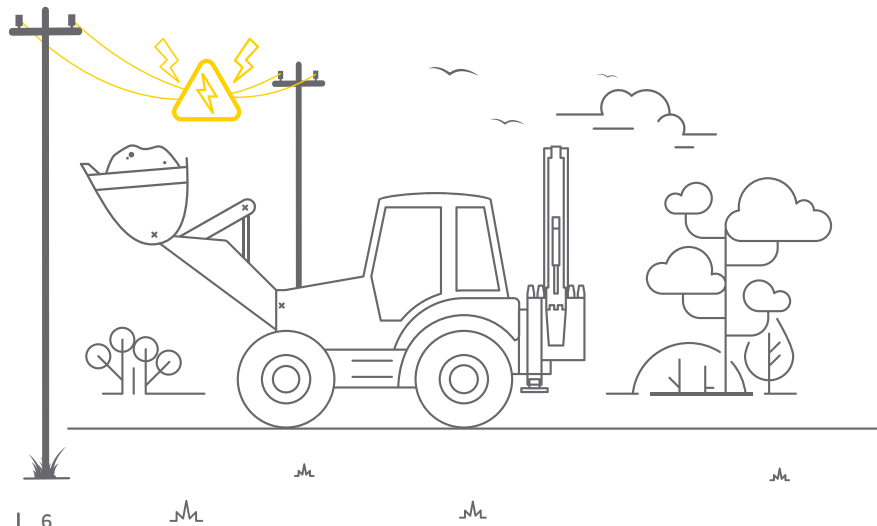
In the past, serious accidents have occurred when using cranes, concrete delivery trucks, tipper trucks, scaffolding, telescopic lights or carrying long objects near overhead wires.

Key to avoiding such accidents is to first take account of the safety implications of overhead wires and then plan to carry out work safely and without incident.

Always keep machinery clear and guard against working close to the live wires. Always allow enough clearance to avoid coming close and remember that electricity can jump gaps.

For more information refer to the ESB Networks Code of Practice For Avoiding Danger from Overhead Electricity Lines which can be downloaded from [www.esbnetworks.ie](http://www.esbnetworks.ie)

Working directly beneath or close to overhead electricity lines is extremely hazardous and requires that you put special controls in place to ensure you never breach the Safe Exclusion Zone, including requesting ESB Networks to switch out the electricity lines for the duration of the work.



# AVOIDANCE OF ELECTRICAL HAZARDS WHEN WORKING NEAR OVERHEAD ELECTRICITY WIRES

Remember, electricity wires are always 'live', so you should always consider electricity hazards on site and in your work area. Working near overhead electricity wires is extremely dangerous due to the possibility of either electrical arcing or direct contact. So before you start work near overhead lines – or even when you're only planning such works – always phone ESB Networks on 1850 372 757.

There are two general hazard situations;

**Sites where there will be no work or passage of machinery under a live overhead electricity wire.**

- Barriers and bunting must be put in place at a safe distance and must run parallel to the electricity wires.
- Barriers may either be fixed post fencing or steel drums filled with rubble and spaced 1.5 metres apart
- If cranes are in use, a line of visible bunting at a height of 3 metres is required to supplement the barriers.
- Danger notices with the words 'Danger Live Overhead Wires' should be spaced at a maximum distance apart of 20 metres.



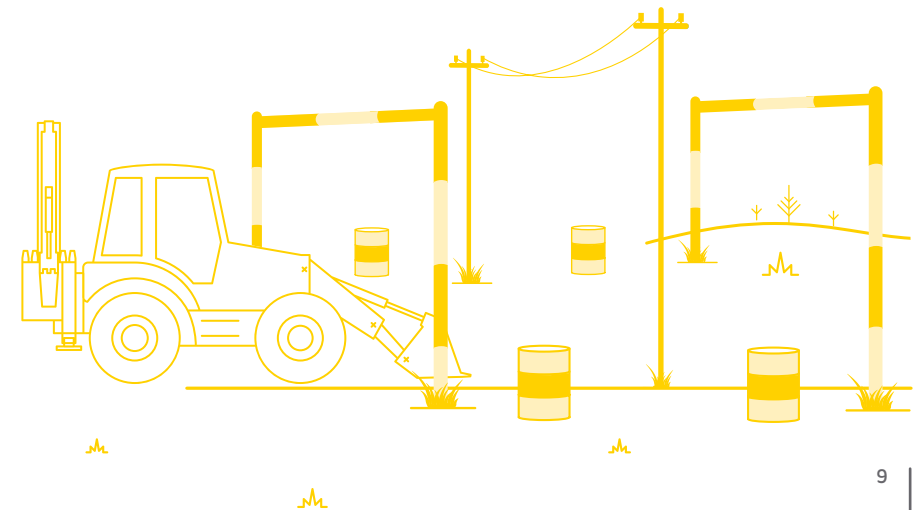
## SAFE CONSTRUCTION AND THE ELECTRICITY NETWORK

**Sites where there will be work or passage of machinery under a live overhead electricity wire.**

- In addition to the safety measures mentioned above, the following safety measures must also be carried out:
- Solid, non-conducting 'goal posts' must be in place, with dimensions as follows:
- The height of the goalposts must not exceed 4.2 metres, except where otherwise advised by ESB Networks.
- The width of the goalposts must be no greater than 9 metres wide.
- The height of the bunting must be between 3 metres and 4.2 metres.

- All barriers must be placed at the extremity of the 'Hazard Zone'. The Hazard Zone surrounds the electricity wires and extends from the outside electricity wire.
- The Hazard Zone is a minimum of 6 metres for all low voltage, 10kV, 20kV and 38kV electricity wires.
- The Hazard Zone is a minimum of 10 metres for 110kV, 220kV and 400kV electricity wires.

If you are unsure of the voltage of nearby power lines, please request map records from ESB Networks at [dig@esb.ie](mailto:dig@esb.ie) or on 1850 928 960.



## REMEMBER THESE 5 STEPS TO STAYING SAFE.

In the event of an incident involving accidental contact with overhead electricity wires, remember these steps and Stay Safe:

### STEP 1: KEEP CLEAR

The driver or operator of plant or machinery that comes into contact with overhead wires will usually remain safe in the cab. However, other people on the ground are at serious risk if they make contact with the plant or machinery - or their attachments. It is never safe to rely on rubber tyres or rubber-soled boots for protection - they will not insulate against high voltage shock. Tyres can burst into flames and boots can be destroyed.

### STEP 2: CONTACT ESB NETWORKS

You or someone else should immediately phone the ESB Networks' Emergency number - 1850 372 999

### STEP 3: JUMP CLEAR

If you must exit the cab, jump clear so that contact is not made between you, the vehicle and the ground. Land on your feet and do not touch the ground

with your hands. Move away carefully by shuffling, keeping both feet together -or bunny hop with both feet close together.

### STEP 4: STAY CLEAR

Do not go back to the vehicle as it may still be live. Wait until ESB Networks has confirmed that it is safe to do so. Many fatal accidents have occurred when the person has jumped clear, but then returns to the vehicle.

### STEP 5: SAFE OPERATION

In some situations, it may be possible to reverse away until contact is broken. Do not climb out of the vehicle or attempt to operate the vehicle when standing on the ground outside the vehicle. Never make contact with the live vehicle and the ground at the same time.

For more detailed information, please refer to the ESB Networks Code of Practice for Avoiding Danger from Overhead Electricity Lines, which can be downloaded from [www.esbnetworks.ie](http://www.esbnetworks.ie).



# AVOIDANCE OF ELECTRICAL HAZARDS WHEN WORKING NEAR UNDERGROUND ELECTRICITY CABLES

Serious accidents have occurred when cables have been struck or disturbed, often resulting in life-threatening and life-changing injuries.

It is important to always take the essential safety precautions before carrying out digging work, as there often will be buried electricity cables close by. It is never safe to disturb or handle electricity cables.

## Before you start digging:

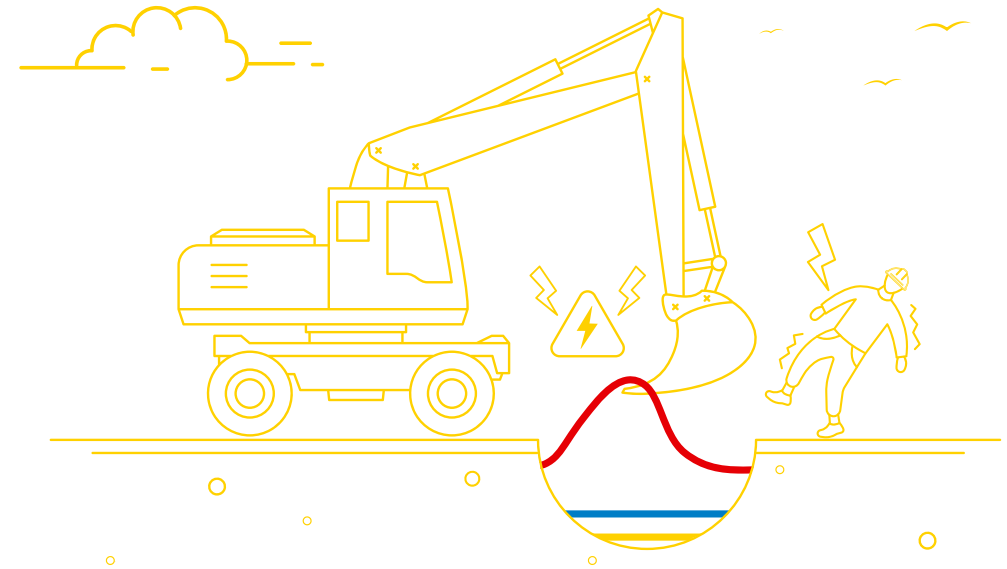
- Contact ESB Networks 'Dial Before You Dig' service and obtain the relevant, up-to-date cable maps - dig@esb.ie or 1850 928 960
- Complete a Risk Assessment Method Statement (RAMS).
- Remember that service cables and public lighting cables may not be shown on the map. Always assume that there are more buried cables present than you have located.
- Look out for any indication of other services such as gas, water, etc.
- Ensure a Cable Avoidance Tool is used by a competent operator to locate all services.

- Mark the positions of the cables using waterproof crayon, chalk or paint and ensure it is visible to the machine operator.

## When working near underground electricity cables, always use:

- Your Company Policies, Procedures, Method Statements and the relevant Code of Practice.
- Maps and Cable records.
- A suitable and appropriate Cable Avoidance Tool (CAT). This must be used by a competent operator.
- Safe Digging Practice.

Always be aware that the depth of cover may be very shallow and that there may be no bricks, warning tape or other protection in place.





For more detailed information, please refer to the H.S.A. Code of Practice For Avoiding Danger from Underground Services available from [www.hsa.ie](http://www.hsa.ie)

Also available: ESB Networks Booklet - How You Can Avoid Hitting Electrical Cables When Digging and Drilling available from [www.esbnetworks.ie](http://www.esbnetworks.ie)

# ARE YOU SURE IT'S SAFE?

Avoid the dangers of underground electricity cables. Contact us to get maps which show the locations of ESB Networks' underground cables.

 **1850 928 960**

 **01 6388169**

 **dig@esb.ie**

 In case of emergency, phone  
**1850 372 999**  
(24 HOUR/7 DAY SERVICE)

[www.esbnetworks.ie](http://www.esbnetworks.ie)

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# HOW TO CONTACT ESB NETWORKS



## GENERAL QUERIES

Contact ESB Networks on

**1850 372 757** or  
**021 2386 555**

Our lines are open Monday  
to Friday 8.30am to 6pm and  
Saturday 8.30am to 1.30pm

If possible please have your MPRN  
number to hand when calling us.

[esbnetworks@esb.ie](mailto:esbnetworks@esb.ie)

Our target is to have your query  
addressed within two working days.



## SAFE DIGGING

Email your request, with your  
site map to [dig@esb.ie](mailto:dig@esb.ie)

Call **1850 928960**

Fax **0 1 6388 169**

Alternatively, you can make a  
postal request to:

Central Site  
ESB Networks  
St. Margaret's Road  
Finglas  
Dublin 11



## FAULTS/EMERGENCIES AND INTERRUPTIONS IN SUPPLY

For Faults/Emergencies (24  
hours/7days service) contact  
ESB Networks Emergency number on

**1850 372 999** or **02 1 23824 10**

For Real Time Information on Faults  
and Outages go to ESB PowerCheck

 [www.powercheck.ie](http://www.powercheck.ie)

Follow us on

 [www.twitter.com/esbnetworks](https://www.twitter.com/esbnetworks)





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# THINGS TO REMEMBER WHEN WORKING NEAR OVERHEAD WIRES AND UNDERGROUND CABLES.

- **Do** phone ESB Networks immediately at 1850 372 999 in case of an emergency.
- **Do** contact ESB Networks to obtain the relevant maps before construction.
- **Do** contact ESB Networks to request a switch out of the electricity networks to ensure safe working.
- **Do** remember that electricity wires are always live.
- **Do** stay clear of overhead electricity wires.
- **Do** identify the location of buried cables.
- **Do** follow the requirements set down in the relevant Codes of Practice.
- **Do** display safety stickers on machinery to remind everyone to be 'electricity safe'. Call 1850 372 757 to obtain these stickers.
- **Don't** work close to overhead wires.
- **Don't** disturb underground cables.
- **Don't** undermine pole or mast foundations.
- **Don't** touch or come near to fallen wires.
- **Don't** approach or touch anything that may be in contact with electricity wires.





