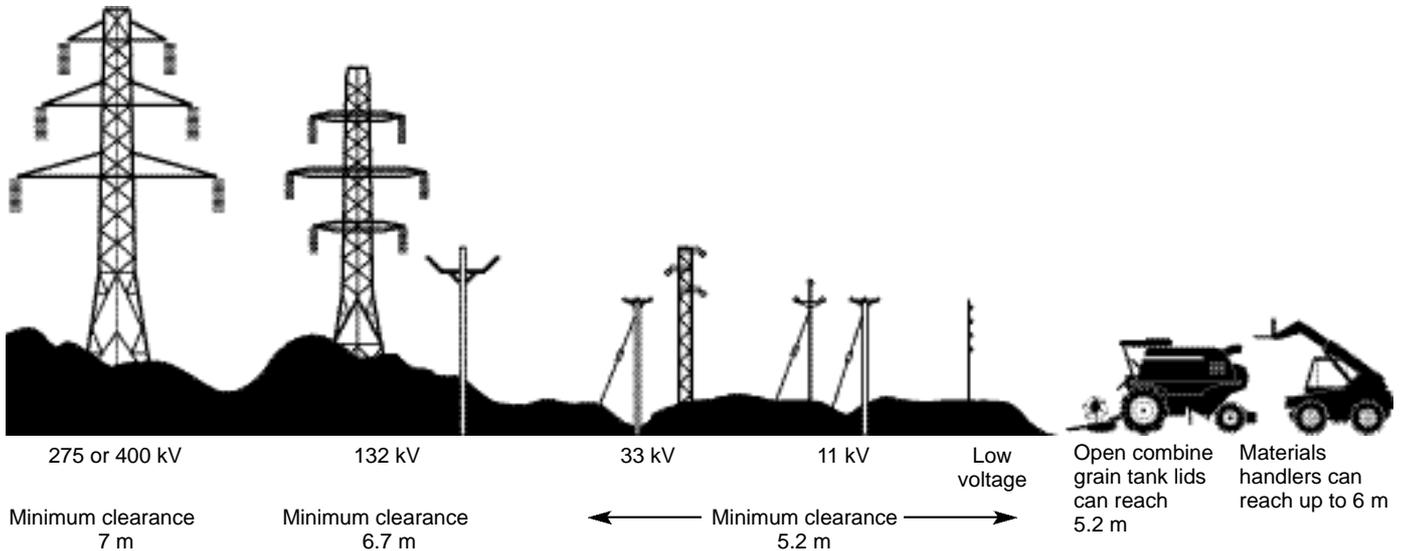




Working safely near overhead power lines

Agriculture Information Sheet No 8 (revised)



Be aware of line heights

Introduction

About five people are killed every year in accidents involving overhead power lines (OHPLs) during agricultural work. Machinery (like combines, tipping trailers, boom sprayers, loaders); equipment (such as irrigation pipes and ladders); and activities (eg stacking) are often involved. Contact with the lines does not need to be made. Electricity can flash over when machinery or equipment gets close to overhead lines.

Most incidents involve high-voltage lines supported on wooden poles, but the dangers of other power lines such as those supported on steel towers or steel poles and concrete structures cannot be ignored.

This information sheet outlines the steps you can take to reduce the risks when working near overhead power lines. Remember the Electricity at Work Regulations 1989 apply to work activities carried out near power lines.

Planning precautions

- **Consult your local electricity company and/or the National Grid Company for lines on steel towers operating at 275 and 400 kV.** (The operating voltage will be displayed on a sign attached to the tower.) They will provide free information and advice about precautions and safe working procedures which can be followed near power lines.

- **Find out** the maximum height and maximum vertical reach of your machines and those used by contractors.
- **Find out** the routes of **all** overhead lines on your land or near your boundaries. Mark them on the farm map. The electricity company will give you this information.
- **Make sure** you have information about all the lines on your land - if not, contact the owners of those lines.
- **Make sure** you have details of the maximum working heights permitted under each span of overhead line on your farm and adjacent to each structure. Mark these on the farm map.

The farm map can be used as a reference when planning cropping or other work, instructing machine operators and contractors, or buying new equipment.

In cases where there is a significant risk, it is sensible to discuss the following measures with the electricity company:

- **Access:** creating alternative access points and routes - this is often the cheapest option.
- **Divert lines:** benefits can arise from burying lines or changing routes - an option particularly suited to farmyards.

- **Barriers and goalposts:** by erecting goalposts and barriers, machines which have to pass beneath lines can be limited to a safe height - an option especially suited to gateways and tracks.

Selection of machinery

The risks of contact or flashover can be greatly reduced by selecting machinery that will not reach more than 4 m from the ground. Check the working heights of your machines and the maximum heights that folding elements can reach. Check with the manufacturer or supplier if necessary.

Use of machinery

Accidents can be prevented if the following operations are **not** carried out within a horizontal distance of at least 9 m from power lines on wooden poles or at least 15 m from lines on metal towers. These distances should be measured from the line of the nearest conductor to the work, projected vertically downwards onto the floor, and perpendicular to the route of the line. The operations are:

- stacking bales or potato boxes;
- folding sprayer booms;
- tipping trailers or lorries;
- operating materials handlers;
- working on top of combines or other high machinery.

Risks can be reduced by:

- using sprayers with horizontally folding booms;
- never folding sprayer booms on the move;
- taking care not to damage poles and stays;
- making sure machinery can operate safely near any overhead lines;
- fitting shorter radio aerials or repositioning existing ones on high machines so they cannot cause danger;
- carrying irrigation pipes horizontally using two people and not storing pipes or other materials and equipment near or under power lines and their supports;
- designating safe areas for high-risk operations, eg boom folding, telescopic handler use, tipping trailers.

Working safely

Key elements of safe systems of work are:

Training

Everybody who works near overhead power lines with a machine or equipment needs to know what the dangers of overhead lines are, the precautions to follow and what to do if they do contact a power line.

Visitors

Contractors are at risk when they work on farms where overhead lines are present. Make sure they know where the lines are and tell them the precautions they need to take. Routes can be marked with safety signs to warn all visitors of the dangers.

EMERGENCY ACTION IF THERE IS AN ACCIDENT

- **Never touch an overhead line - even if it has been brought down by machinery, or has fallen. Never assume lines are dead.**
- **When a machine is in contact with an overhead line, electrocution is possible if anyone touches both the machine and the ground. Stay in the machine and lower any raised parts in contact or drive the machine out of the lines if you can.**
- **If you need to get out to summon help or because of fire, jump out as far as you can without touching any wires or the machine - keep upright and away.**
- **Get the electricity company to disconnect the supply. Even if the line appears dead, do not touch it - automatic switching may reconnect the power.**

Safety representatives

When assessing the risks from OHPLs, talking to your employees about how they do their work can be very valuable. Use trade union or other employee safety representatives to help you.

Further advice

For further advice and information contact your local electricity supply company. You can also get advice from the Farm Energy Centre, NAC, Stoneleigh Park, Kenilworth, Warwickshire CV8 2LS. Tel: 024 7669 6512 website: www.farmenergy.com. To obtain the latest edition of their handbook *Safe use of electricity in farming and horticulture* (FEC 2107: 4th edition 1998 ISBN 1 874290 11 3) send them a cheque for £5.00 made payable to FEC Services Ltd.

Further reading

Avoidance of danger from overhead electric power lines GS6 (Third edition) HSE Books 1997 ISBN 0 7176 1348 8

The safe use of irrigators and slurry guns near overhead electric power lines EASG005 1/99 FEC Services (Available free from The Farm Energy Centre, Tel: 024 7669 6512, website: www.farmenergy.com or download free from www.energynetworks.org)

Memorandum of guidance on the Electricity at Work Regulations 1989 HSR25 HSE Books 1989 ISBN 0 7176 1602 9

Safe use of work equipment. Provision and Use of Work Equipment Regulations 1998. Approved Code of Practice and guidance L22 HSE Books 1998 ISBN 0 7176 1626 6

Management of health and safety at work. Management of Health and Safety at Work Regulations 1999. Approved Code of Practice and guidance L21 HSE Books 2000 ISBN 0 7176 2488 9

Shock horror: The dangers of electrocution by overhead power lines Video HSE Books 1993 ISBN 0 7176 1973 7

Further information

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This leaflet contains notes on good practice which are not compulsory but which you may find helpful in considering what you need to do.

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