



Approved Standard: **MANAGING THE RISKS TO ANGLERS FROM OVERHEAD POWER LINES**

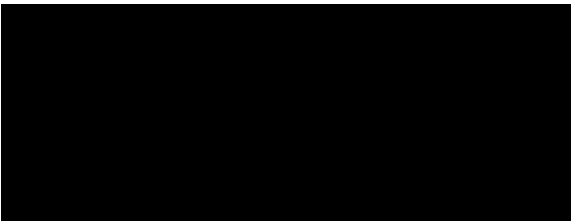
Management brief

The aim of this document is to assist managers and others with responsibility for the safety of visitors **recognise the hazards** and **manage the risks** from angling adjacent to overhead electrical power lines. It sets out our approach to managing the risk through the application of specific customer service standards, site specific risk assessment and implementation and maintenance of appropriate controls. Whilst it's main aim is to protect anglers its principles can also be applied to other activities such as kite flying and/or use of sailing craft whose masts may contact overhead lines.

Roles and Responsibilities

Employees involved in assessment of risks to our people or the public associated with risks from overhead power lines will take into account the guidance within this document.

Authorised by:



Operations & Asset Management Director

Date: 1st July 2012

Prepared by: P. Wade, Safety Advisor, Public Safety

Custodian: Head of Health and Safety



Amendment Record

Issue No.	Issue Date	Changes
1	Sept 04	Guidance – Managing Power Lines
2	Dec 09	Guidance became AS-OPS-74
3	Nov 10	Minor changes to narrative
4	Nov 11	Minor changes to narrative to clarify specific points in content
5	June 12	Update to narrative to reflect revised guidance from Angling & overhead power lines working group + move to trust status + addition of Appendix 2
	Sept 2014	Annual Review, no changes
	March 2015	Addition of roles and responsibilities

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1. Overview

The responsibility for overhead power lines rests with the owner; however we, as owners of the fishery and adjacent land, also have a duty of care for the safety of anyone who works, visits or uses our waterways. By assessing the risks and putting in place suitable control measures, we can demonstrate we are discharging this duty.

As a member of The Angling & Overhead Power Lines Working Group (AOhPLWG) we have 'signed up' to the aims of the group and to promote the principles developed by members, this document applies those principles. Appendix 3 provides details of the group, its members and objectives.

Management Note: The cost of overhead power line warning signs is recovered automatically from the line owners through a national agreement; each waterway unit receives a share of the income on an annual basis automatically.

2. Legal requirements

The main pieces of legislation controlling our responsibilities are:

- Health and Safety at Work Act 1974 (Section 3)
- Occupier's Liability Acts 1957 and 1984.

Although the responsibility for power lines rests with the owner, section three of the Health & Safety at Work Act 1974 places a duty on us to ensure the safety of those visiting our sites who are not our employees. Further more the Occupiers Liability Acts' place a duty of care on us to ensure the safety of those visiting our property, this includes visitors to land or water we own or manage. This duty of care not only extends to "invited" visitors but also to anyone carrying out "discouraged activities" or who may be trespassing.

3. Who is at risk?

Anglers are recognised as the main 'at risk' group from overhead power lines consequently this document focuses on them however as suggested in the Management Brief other users/visitors may also be at risk. For example, masts and other equipment used by yacht/dinghy sailors or wind surfers, kites or communications aerials may also inadvertently contact overhead power lines causing death or injury to participants.

Application Note: Electricity industry accident data for recent years has shown that young anglers are at far higher risk than adults.

4. Managing the risk

4.1 Minimum exclusion zone to angling (Note for Tony, This section has been moved from lower down within the document)

The Angling and Overhead power Lines working group(AOhPLWG) recommend a default exclusion distance for angling adjacent to overhead power lines of **30metres**. We enforce this recommendation as our default exclusion distance for all crossings and linear lines through our 4.1.1Customer Service Standards (CSS).

Customer service standards CSS 2.f.1/2/3 & CSS 2.g.2 require that:

- "Fishing pegs are not permitted within 30m of overhead power lines". (CSS 2.g.2)
- "Customers are warned about overhead power lines with clear, visible warning signage" (CSS 2.f.3)
- "Safety signs and safety aids are visible, clear and legible" (CSS 2.f.1)
- "Safety signs are replaced within **One Day** of a problem being logged" (CSS 2.f.2)

By implementing and maintaining the requirements of CSS and monitoring OHPL signage during Length Inspections we have removed the requirement for specific risk assessment of risk to anglers from overhead power lines at each site.

Application Notes:

- Section 5 contains further guidance about the signs we use and how they are used.
- Appendix 1 & 2 provide examples of on the Signage System and how it is used.

4.2 Relaxation of the Default Exclusion Distance (NEW SECTION)

Latest AOHPWLG guidance suggests it may be possible to permit a relaxation of the 30metre default exclusion distance subject to the outcome of a site specific risk assessment. For example where lines run parallel to the water space for long distances but do not constitute a direct hazard to angling (an overhead line situated 20 metres into a field adjacent to a 10metres wide canal) it may be possible to reduce the exclusion zone as the risk to anglers may be minimal.

Application Note: The risk assessment identified above must be carried out by competent representatives from all interested parties using the methodology agreed within the trust & the AOHPWLG. For clarity interested parties will usually be representatives from the Trust any angling club and / or The Angling Trust and a representative from the overhead power line owner.

The remaining guidance in this section is provided for use when we identify overhead lines which are not signed, where changes on site or an incident involving a power line has taken place or where we consider a deviation from CSS requirements may be possible.

4.3. Recognising the hazard

- Overhead electrical power lines commonly carry loads between 230 and 400,000 volts.
- They are normally bare (not insulated) and usually mounted on wood, concrete or steel poles or metal towers (pylons)
- Height of the lines will vary depending on their type, weather conditions and the load they carry.
- Transformers, switches and connections may be positioned on poles at a reduced height to the overhead line.
- Electricity can jump short distances through the air (commonly known as arcing)
- Telephone wires are also supported on wooden poles which could lead to confusion and place users and unwary assessors at risk. Consequently:
- To minimise the risk of an incident, **ALL** overhead lines should be treated as live conductors until we have clarified their use. Where there are questions about overhead lines you **must** contact your local electricity supply company for guidance.

4.4. Assessing the risk

Where overhead lines encroach on our waters, towpaths, access routes or car parking areas:

- **Never make assumptions** that visitors are aware of their presence, we must:
- **Assess** the risks from the overhead line and
- Implement and maintain control measures appropriate to the risk

When preparing the risk assessment we must consider:



- Overhead power lines may be visible to the naked eye, however
- They may be obscured for example by trees or other vegetation
- Angling may take place in daylight hours and in darkness (particularly illegal fishing at commercial waters)
- Modern rods and poles are good conductors of electricity and reach lengths well in excess of the height of most overhead lines
- In many cases anglers may not be fully aware of their surroundings or the presence of / danger from overhead lines

4.5. Controlling the risk

4.5.1. Standard & Additional Control Measures

As stated above customer service standards set the requirements for default exclusion zones, signage at access points and adjacent to overhead electrical power lines and for replacement of missing signs. The serviceability of signage is monitored through length inspections. (See section 5.2. for more information)

Risk controls may, depending on local circumstances, need to be more extensive than signage alone. For example at high risk sites (where children may fish unsupervised and/or where anglers ignore signage) there may be a need for:

- verbal instruction on the bank
- briefing sessions to angling clubs or other groups
- site visits to monitor angler behaviour
- Height limit markers (goal posts) to warn of the hazard, or a mix of all.

Such additional "controls" will vary depending on:

- the location
- the likely experience of the angler (E.g. unsupervised young children)
- the type of angling e.g. is it:
 - o organised or casual
 - o at manned/unmanned locations
 - o carried out during daylight or darkness

4.6. Reviewing risk assessments

All risk assessments must be reviewed periodically. For AOHP assessments this will normally be at 5 yearly intervals but can be more frequent. Reviews must be carried out:

- after any incident or near miss involving an overhead power line
- When changes occur which affect on site conditions or use (for example removal of a vegetation barrier).
- Where increasing numbers of young anglers are known to fish unsupervised

When a review of a local assessment is required the responsible line manager should identify a competent person with responsibility for preparing the assessment, programming any identified work and following up the post work assessment. This will normally be the fisheries manager/supervisor or Health & Safety Advisor.

Remember: A sensible approach to managing risks can reduce our potential liability and more importantly it can **save lives**.

5. Signage

5.1 Standard Sign system

This section describes the installation and use of warning signs which designate exclusion zones to angling, the narrative should be read in conjunction with appendix 1 and 2. Appendix 1 provides guidance for calculating exclusion zones and sighting of signs, appendix 2 gives specifications for the signs and further details on their use.

5.1.1 Mounting the signs

Signs adjacent to and under power lines will normally be placed on wooden totem poles; this will minimize the risk of vandalism. There will however be locations where the use of "totems" is not practical, for example in areas where vegetation may obscure the sign or where vandalism requires the use of steel or similar posts. The sign specification sheet at appendix 2 provides details of appropriate alternative signs (e.g. Side by side signs)

5.1.2 Types of sign and their use

"Warning Notices"

Warning notices are erected at **all** access points where the adjacent fishery is affected by overhead power lines; their purpose is to warn anglers of the presence of overhead lines before they reach the water front.

For the purposes of this document, "access points", are defined as any official point of entry onto Trust waters where overhead power lines are present, this will include, accesses to canals, reservoirs, lakes, ponds, or feeder streams where angling could take place.

Application Note: Warning notices **should not** be sited at access points where the adjacent length does not contain overhead lines.

"Up and Downstream Signs"

Up and downstream signs are designed to warn the angler they are entering a hazard area / exclusion zone. They should be installed at the extremities of the exclusion, at right angles to the walkway so they face the angler as they approach the exclusion.

"Under Crossing Signs"

Under crossing signs are designed to be used under overhead power lines which cross the water space. Normally they are placed at the mid point of the exclusion (E.g. adjacent to the centre point of the overhead line) at the rear of the towpath. Under crossing signs must be installed parallel to the water, in a prominent position without causing obstruction.

Parallel Lines

At some locations overhead power lines run parallel to the water for long distances. Where such lines are located within 30 metres of the fishery there is a requirement to exclude angling throughout the affected area (unless the site has been subject to a specific risk assessment which has allowed relaxation of the default exclusion distance) Where the 30 metre default is in place "Up and Downstream" signs are erected at the extremities of the exclusion, "under crossing signs" are then installed at frequent intervals **"in line of sight" but not exceeding 200metres** throughout the length of the affected area.

"Danger of Death" warnings

All the above signs must be supplemented by the standard safety yellow electricity warning pictogram and wording "Danger Overhead Electrical power lines". By providing this sign we also provide information on the hazard to other groups who may use the site.



5.2 Inspection & Maintenance

As documented previously Customer Service Standard CSS 2.f.2 requires that: "Safety signs are replaced within one day of a problem being logged". Inspection of overhead power line warning signs is included in Asset Inspection procedures.

The length inspection for every waterway must include a visual inspection of overhead power line warning signs during each inspection. If a sign or signs are defaced or missing the length inspector must record the findings on the appropriate report form. In addition, they must inform the appropriate line manager or supervisor of the finding to ensure they are re-instated in line with customer service standard.

The length inspector must also note and report angling which is taking place within exclusion zones to allow the relevant line manager to take action to stop the activity. This will include signs of angling such as fishing line hanging from the overhead line. Such occurrences must be reported to the local Electricity Company.

Application Notes:

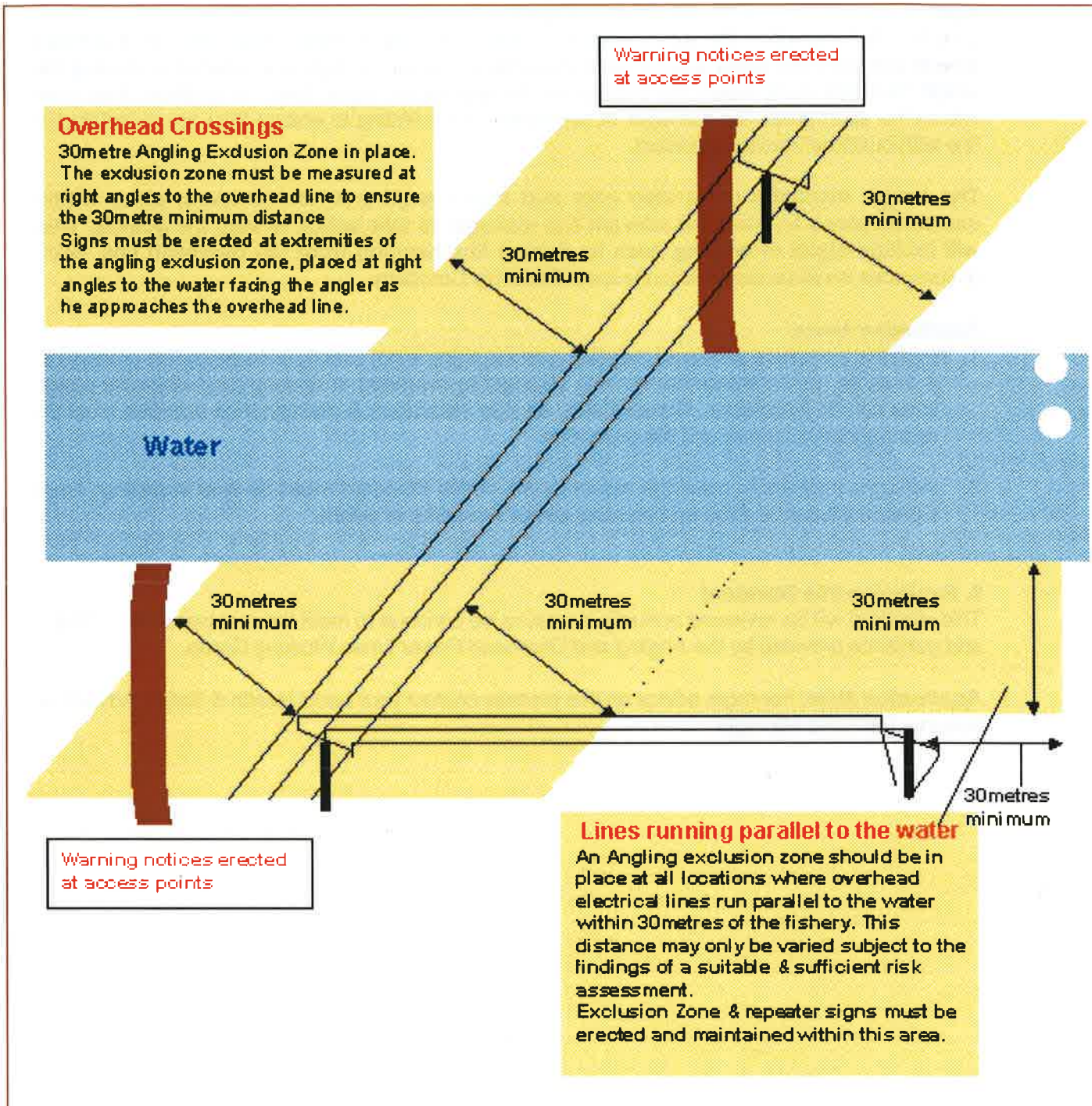
1. Whilst the workplace activity of installing warning signs is not directly covered by this procedure, it must be remembered that working adjacent to overhead or underground electrical power lines can be hazardous. Consequently all sign installation & maintenance activities must be appropriately planned and risk assessed.
2. All signs installed to meet the requirements of this Standard **must be free standing**; Trust signs **must not** be fixed on overhead power line poles or pylons.

6. Reviewing this Standard

This standard will be reviewed annually to ensure we continue to meet the requirements of CSS and guidance provided by the Angling and Overhead Power Lines Working Group.

Application Note: For more advice on this process contact your Local Health & Safety Advisor or National Fisheries Manager.

Appendix 1 Exclusion zone Detail - crossings & linear lines



Application Note: The measurements must be taken along the ground at right angles to the outer conductor of the overhead power line.



Appendix 2 1st Stage – relaxation of the 30 metre default exclusion distance

The purpose of this guidance is to aid the decision making process for relaxation of the 30metre default exclusion zone. It must not be used to provide definitive decision but the first stage of the process to establish if a relaxation of the 30metre default exclusion distance may be possible following an on-site risk assessment involving all interested parties.

Location/ Type of fishery	Position of OHPL	Access on affected bank	Signage / other controls	Relaxation of default exclusion distance possible?
Narrow Canal Towpath side	OHPL 17metres or less from towpath edge	Yes	No physical barriers between angler & OHPL Exclusion Signage on towpath & access points	No
Narrow Canal Towpath side	OHPL 17metres or less from towpath edge	Yes	Physical barriers between angler & OHPL Exclusion Signage on towpath & access points	Possible subject to risk assessment by competent persons
Narrow Canal Towpath side	OHPL over 17metres from towpath edge	Yes	With or without physical barriers Exclusion Signage on towpath & access points	Possible subject to risk assessment by competent persons
Narrow Canal Off side	OHPL 7metres or more from canal edge	No	With or without physical barriers Exclusion Signage on towpath & access points	Possible subject to risk assessment by competent persons
Wide Canal Towpath side	OHPL less than max pole length + 7metres from towpath edge	Yes	No physical barriers between angler & OHPL Exclusion Signage on towpath & access points	No

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Location/ Type of fishery	Position of OHPL	Access on affected bank	Signage / other controls	Relaxation of default exclusion distance possible?
Wide Canal Towpath side	OHPL more than max pole length + 7metres from towpath edge	Yes	Physical barriers between angler & OHPL Exclusion Signage on towpath & access points	Possible subject to risk assessment by competent persons
Wide Canal Off Side	OHPL 7metres or more from canal edge	Yes	With or without physical barriers Exclusion Signage on towpath & access points	Possible subject to risk assessment by competent persons
Narrow or wide Canal	OHPL crossing water space	Yes	Exclusion Signage on towpath & access points	Trust policy is to maintain 30metre exclusion at all crossings unless rod length can be limited / managed or OHPL higher than max rod length + 7metres minimum
Commercial fishery Subject to site risk assessment in all cases				

Application Notes:

Narrow canals

For the purposes of the assessment process Narrow Canals are defined as waterways with an average width of 10metres excluding overhanging vegetation.

Physical barriers

For the purposes of defining Physical Barriers between the angler and OHPL they are described as areas of dense vegetation such as hedges, tree plantations, solid fences or buildings the height of which minimize the risk of fishing equipment contacting the overhead power line. Issues such as hedge laying, tree removal and/or removal of other barriers must be considered during the assessment.

Prepared by: Peter Wade, Safety Advisor, Public Safety Lead

Appendix 3 Standard Sign Specification

Overhead Electrical Power Line Warning Signs

How & where warning signs should be used

These are the three types of warning sign :-

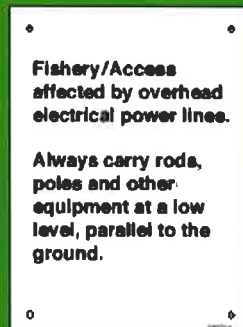
Warning Notices

Warning notices should be used at access points to provide a general warning of the presence of overhead electrical power lines on approaches to the fishery and/or affecting the fishery itself.



Size:
170x170
Colours:
Black onto
Yellow
(RAL 1003)

Lowercase
letter: 9mm
Readable distance: 1.8M



Size:
170x230
Colours:
Black onto
White

Lowercase
letter: 9mm
Readable distance: 1.8M

Angling Exclusion Zone Sign

Exclusion Zone Signs should be used at the extremities of the 30 metre angling exclusion zone. This type of sign is designed to warn anglers as they approach the overhead electrical power line and should be erected in a prominent position, at right angles to the water, to face the anglers as they approach the exclusion zone.



Size:
170x170
Colours:
Black onto
Yellow
(RAL 1003)

Lowercase
letter: 9mm
Readable distance: 1.8M



Size:
170x230
Colours:
Red (RAL 3001)
and Black
onto White

Lowercase
letter: 9mm
Readable distance: 1.8M

Repeater/Under Line Signs

At some locations overhead electrical power lines may run parallel to the water for long distances, where this occurs it is recommended that 'repeater signs' are erected at frequent intervals in line of sight but not exceeding 200 metres. These signs can also be used as a reminder sign directly below the overhead crossing.

Note: This type of sign should be used in addition to the Angling Exclusion Zone signs.



Size:
170x170
Colours:
Black onto
Yellow
(RAL 1003)

Lowercase
letter: 9mm
Readable distance: 1.8M



Size:
170x230
Colours:
Red (RAL 3001)
and Black
onto White

Lowercase
letter: 9mm
Readable distance: 1.8M

At high risk locations individual tiles with the wording "Always carry rods, poles and other equipment at a low level, parallel to the ground" can also be incorporated alongside the Exclusion Zone signs and/or the Repeater/Under Line signs

Specification Note: Due to the effects of weathering, notably the fading of the printed message caused by the sun's UV rays it is advisable to check with your sign supplier the life expectancy of the signs. Sign life can be increased by overlaminating the panel with a clear UV inhibiting film.

The exclusion zone & under line signs are supplied as units for use in a vertical format as displayed above, or side by side on one sign panel as shown below. This allows those purchasing the signs to decide on the most suitable layout/design style for the location to be signed.



Designed by Scorpio Signs (Design & Display) Ltd. t_01606 74912 f_01606 76036 www.scorpiosigns.co.uk



Appendix 4 Angling and Overhead Lines working group

The member companies of the Electricity Association and the major stakeholders associated with Angling established a working group that has met on a regular basis for more than 20 years.

The objectives of the Group are:

- To prevent injuries or death to anglers caused by fishing in close proximity to overhead power lines.
- Facilitate the exchange of information, discuss problems and formulate solutions amongst interested parties involved with angling and overhead power lines.
- Co-ordinate and promote publicity initiatives
- Inform, educate & advise on the dangers of fishing near to overhead power lines.

Membership of Working Group

The following organisations are a selection of those represented on the Working Group:

Angling trust

Environment Agency

The Canal & River Trust

Country Land and Business Association

Anglers Trading Association

Electricity supply/transmission companies

Energy Networks Association

Royal Society for the Prevention of Accidents