



Technical Specification 43-90

Issue 6 2013

ANTI-CLIMBING MEASURES AND SAFETY  
SIGNS FOR OVERHEAD

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## **ANTI-CLIMBING MEASURES AND SAFETY SIGNS FOR OVERHEAD LINES**

### **FOREWORD**

This ENA Technical Specification has been issued following discussions with the Health and Safety Executive following publication of Issue 5 of this document. The changes incorporated herein provide further reference to the application of The Electricity Safety, Quality and Continuity Regulations, as amended (ESQCR) and clarification and expansion in a number of areas.

### **1 SCOPE**

This specification describes anti-climbing measures and safety signs applicable to wood poles and lattice steel towers supporting high voltage overhead lines up to 400 kV and should be read in conjunction with relevant ENA Technical Specifications and Engineering Recommendations for other safety issues.

This specification examines the need for the installation of anti-climbing devices in certain situations. Also included are examples of safety signs and recommendations as to where they should be placed.

The document should be read with the understanding that it is not possible to defeat a determined effort to gain access to overhead lines. The purpose is to provide guidance on the appropriate concepts that should be employed to deter and adequately warn potential trespassers.

This specification is designed to address the following requirements of the Electricity Safety, Quality and Continuity Regulations:

- “3. - (2) Generators and Distributors shall –
- (a) for each of their overhead lines or part thereof and for each of their substations, assess the foreseeable risk of danger from interference, vandalism or unauthorised access, having regard to both the nature of the equipment and use of the surrounding land, and classify the degree of the risk;
  - (b) enter details of the result of the classification of risk in a register or other permanent record kept updated for the purpose; and
  - (c) take measures to safeguard the equipment commensurate with the nature and class of risk to which it gives rise.”
- “19. - (1) Every support carrying a high voltage overhead line shall, if the circumstances reasonably require, be fitted with devices to prevent, so far as is reasonably practicable, any unauthorised person from reaching a position at which any such line would be a source of danger.
- (2) Every support carrying a high voltage overhead line, and every support carrying a low voltage overhead line incorporating bare phase conductors, shall have attached to it sufficient safety signs complying with Schedule 1 of such size and placed in such positions as are necessary to give due warning of such danger as is reasonably foreseeable in the circumstances.”

The following definition is taken from the ESQCR Guidance Document:

"The term reasonably practicable is used frequently throughout the Regulations. Essentially the term requires duty holders to undertake a risk assessment of the circumstances at hand, i.e. how do the risks of interference, danger or interruption of supply compare with the time, trouble and expense which would be involved in taking steps to eliminate or minimise the risks? The greater the degree of risk the less weight can be given to the cost of measures needed to prevent that risk.

## 2 REFERENCES

BS 1494-1	Specification for fixing accessories for building purposes. Fixings for sheet, roof and wall coverings
BS EN 10223-1	Steel wire and wire products for fences – Part 1: Zinc and zinc alloy coated steel barbed wire
BS EN 10244-2	Steel wire and wire products. Non-ferrous metallic coatings on steel wire. Zinc or zinc alloy coatings
ENA TS 43-95	Steelwork for overhead lines
ENA TS 43-96	Fasteners and washers for wood pole overhead lines
SI 2002:2665	The Electricity Safety, Quality and Continuity Regulations 2002 (ESQCR)
SI 2006:1521	The Electricity Safety, Quality and Continuity (Amendment) Regulations 2006
SI 2009: 639	The Electricity Safety, Quality and Continuity (Amendment) Regulations 2009
Angler Safety –	Guidance produced by the Energy Networks Association Angling & Overhead Power Line Working Group
Occupiers Liability Act 1984	Liability of persons as occupiers of premises

## 3 DEFINITIONS

### Datum Line

The level at which a person can stand in the proximity of a support. This may be the level of the ground or of a useable surface of an obstacle (see Figures 1 and 2). Note that the datum line moves upwards when anything that will allow a person to stand on it exists in proximity to the support. On hillsides or where a change in ground level otherwise occurs, the datum line for portal structures or towers shall be that at the point of highest ground level.

### Obstacle

Any man-made or natural feature, protruding above ground level, which cannot be removed and which could aid climbing of a support. This includes items attached to the pole that form a part of the overhead line (e.g. an auto-recloser control box).