

Technical Appendix 3.1 – The Holford Rules

Rule 1

Avoid altogether, if possible, the major areas of highest amenity value, by so planning the general route of the line in the first place, even if the total mileage is somewhat increased in consequence.

Note on Rule 1

- a) Investigate the possibility of alternative routes, avoiding altogether, if possible major areas of highest amenity value. The consideration of alternative routes must be an integral feature of environmental statements. If there is an existing transmission line through a major area of highest amenity value and the surrounding land use has to some extent adjusted to its presence, particularly in the case of commercial forestry, then the effect of remaining on this route must be considered in terms of the effect of a new route avoiding the area.*
- b) Areas of highest amenity value require to be established on a project-by-project basis considering Schedule 9 to The Electricity Act 1989, Scottish Planning Policies, National Planning Policy Guidelines, Circulars and Planning Advice Notes and the spatial extent of areas identified Examples of areas of highest amenity value which should be considered are*
 - a. Special Area of Conservation*
 - b. Special Protection Area*
 - c. Ramsar Site*
 - d. National Scenic Areas*
 - e. National Parks*
 - f. National Nature Reserves*
 - g. Protected Coastal Zone Designations*
 - h. Sites of Special Scientific Interest (SSSI)*
 - i. Schedule of Ancient Monuments*
 - j. Listed Buildings*
 - k. Conservation Areas*
 - l. World Heritage Sites (a non-statutory designation)*
 - m. Historic Gardens and Designed Landscapes (a non- statutory designation)*

Rule 2

Avoid smaller areas of high amenity value, or scientific interest by deviation; provided that this can be done without using too many angle towers, i.e. the more massive structures which are used when lines change direction.

Note on Rule 2

- a) Small areas of highest amenity value not included in Rule 1 as a result of their spatial extent should be identified along with other areas of regional or local high amenity value identified from development plans.*
- b) Effects on the setting of historic buildings and other cultural heritage features should be minimised.*
- c) If there is an existing transmission line through an area of high amenity value and the surrounding land uses have to some extent adjusted to its presence, particularly in the case of commercial forestry, then the effect of remaining on this line must be considered in terms of the effect of a new route deviating around the area.*

Rule 3

Other things being equal, choose the most direct line, with no sharp changes of direction and thus with few angle towers.

Note on Rule 3

- a) Where possible choose inconspicuous locations for angle towers, terminal towers and sealing end compounds.*
- b) Too few angles on flat landscape can also lead to visual intrusion through very long straight lines of towers, particularly when seen nearly along the line.*

Rule 4

Choose tree and hill backgrounds in preference to sky backgrounds, wherever possible; and when the line has to cross a ridge, secure this opaque background as long as possible and cross obliquely when a dip in the ridge provides an opportunity. Where it does not, cross directly, preferably between belts of trees.

Rule 5

Prefer moderately open valleys with woods where the apparent height of towers will be reduced, and views of the line will be broken by trees.

Notes on Rules 4 and 5

- a) Utilise background and foreground features to reduce the apparent height and domination of towers from main viewpoints.*
- b) Minimise the exposure of numbers of towers on prominent ridges and skylines.*
- c) Where possible follow open space and run alongside, not through woodland or commercial forestry, and consider opportunities for skirting edges of copses and woods. Where there is no reasonable alternative to cutting through woodland or commercial forestry, the Forestry Commission Guidelines should be followed (Forest Landscape Design Guidelines, second edition, The Forestry Commission 1994 and Forest Design Planning – A Guide to Good Practice, Simon Bell/The Forest Authority 1998).*

- d) *Protect existing vegetation, including woodland and hedgerows, and safeguard visual and ecological links with the surrounding landscape.*

Rule 6

In country which is flat and sparsely planted, keep the high voltage lines as far as possible independent of smaller lines, converging routes, distribution poles and other masts, wires and cables, so as to avoid a concatenation or 'wirescape'.

Note on Rule 6

- a) *In all locations minimise confusing appearance.*
- b) *Arrange wherever practicable that parallel or closely related routes are planned with tower types, spans and conductors forming a coherent appearance. Where routes need to diverge allow, where practicable, sufficient separation to limit the effects on properties and features between lines.*

Rule 7

Approach urban areas through industrial zones, where they exist; and when pleasant residential and recreational land intervenes between the approach line and the substation, go carefully into the comparative costs of undergrounding, for lines other than those of the highest voltage.

Note on Rule 7

- a) *When a line needs to pass through a development area, route it so as to minimise as far as possible the effect on development.*
- b) *Alignments should be chosen after consideration of effects on the amenity of existing development and on proposals for new development.*
- c) *When siting substations take account of the effects of the terminal towers and line connections that will need to be made and take advantage of screening features such as ground form and vegetation.*

Explanatory Note on Rule 7

The assumption made in Rule 7 is that the highest voltage line is overhead.

Supplementary Notes

a) Residential Areas

Avoid routeing close to residential areas as far as possible on grounds of general amenity.

b) Designations of Regional and Local Importance

Where possible choose routes which cause the least disturbance to Areas of Great Landscape Value and other similar designations of Regional or Local Importance.

c) Alternative Lattice Steel Tower Designs

In addition to adopting appropriate routeing, evaluate where appropriate the use of alternative lattice steel tower designs available where these would be advantageous visually, and where the extra cost can be justified [Note : SHETL have reviewed the visual and landscape arguments for

the use of lattice steel towers in Scotland and summarised these in a document titled Overhead Transmission Line Tower Study 2004].