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# Norwich to Tilbury

## Volume 6: Environmental statement

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Approach to Consenting

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**nationalgrid**

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Our statutory duties

**National Grid Electricity Transmission owns the high-voltage electricity transmission network in England and Wales. The system is operated across Great Britain by National Grid Electricity System Operator. We connect millions of people safely, reliably and efficiently to the energy they use every day.**

**We are at the heart of the greatest challenge facing our society: the development of an energy transmission system that connects renewable and low-carbon sources of power to help the UK reach its climate change target of net zero<sup>1</sup> greenhouse gas emissions by 2050, and the ambitious target of connecting 40GW \* of offshore wind by 2030 – enough to power every home in the country by the end of the decade.**

Our key objectives in meeting this challenge are:

- ensure that the delivery of energy is affordable,
- ensure our networks are resilient and reliable, and
- enable transition to a Net Zero<sup>1</sup> carbon economy having regard to the environment and society we operate in.

Along with these objectives, we must continue to meet our legal duties to develop and maintain efficient, economic and co-ordinated energy transmission system and have regard to the desirability of preserving amenity.

Our approach to developing and delivering new infrastructure applies to projects across our regulated electricity transmission business, and is set out in this document.

<sup>1</sup> Net zero means that any carbon emissions created are balanced (or cancelled out) by taking the same amount out of the atmosphere (for example, by planting trees). We will reach net zero when the amount of carbon emissions we add is no more than the amount taken away

\* or as amended by Government

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# Introduction

## The energy challenge and the transmission network

The UK faces a major challenge in the way it generates and distributes energy. As a country we need to ensure we have secure and reliable energy supplies at the same time as tackling climate change. This means a big investment is needed in new low-carbon power sources electricity networks as well as improved energy storage.

Part of this challenge is to make sure that new low-carbon power sources are connected to our transmission network in an efficient way to take energy to where it is needed. Many of these new power sources will either be offshore or located in areas where there is little existing transmission infrastructure. The wider electricity network may also need reinforcing to carry the electricity being generated.

Before planning to build new infrastructure, we will always look to see whether we could improve or upgrade on our existing networks to connect new low-carbon sources of energy. In some cases, there will be a need to build new electricity lines to make new connections into the existing network. We need to balance the need for secure and reliable energy supplies with affordability for consumers and flexibility to support the connection of new energy sources.

## Our duties and obligations

We are regulated by the electricity market regulator, Ofgem, who require us to provide value for money for consumers, and to satisfy our legal duties.

These duties are set out in the Electricity Act (1989) and require us to develop and maintain an efficient, economic and coordinated energy transmission system and have regard to the desirability of preserving amenity.

When we develop our proposals we consider impacts on the environment (including landscape and visual, biodiversity, cultural heritage), socio-economic factors and on local communities.

We seek to develop a reliable and resilient network that can support the changing energy system, while keeping bills low and caring about the communities and environment where we work.

We believe we will best achieve this balance by:

- consulting effectively so that feedback can influence the development of our proposals;
- being open with information and transparent about the judgements we make;

- complying with national policy and our statutory duties; and
- developing proposals that deliver what society needs, in a cost-effective and timely manner.

We aim to develop proposals for consideration by the relevant decision-making body who decide whether our projects strike the right balance between these objectives.

## Our approach

The project development and delivery process that we follow for different types of infrastructure is broadly similar.

For each project, whether it is the connection of new offshore wind or the reinforcement of the transmission network to provide increased capacity, we first need to understand:

- what is required,
- ways it can be met, and
- when it is needed.

We consider the need case and strategic options in broad geographical terms where the development can and should be located, along with the appropriate technology to be used.



**Strategic proposal**

This first step is to check if the existing network can accommodate the customer or capacity needs economically and efficiently before we consider building any new infrastructure.

This may include discussions with customers to see if we can meet their need in another way, modifying how we operate the network, or investing in equipment to optimise the use of the existing network to reduce or avoid the need for major investment. This can sometimes be a more sustainable and less expensive option.

When the need has been established, we review the possible ways that the project could be delivered. We will consider several different strategic options, which might include the consideration of different technologies (this could include underground cables, overhead lines or sub-sea cables); different areas for connection points; or a combination of the two.

Before we do any further work, we apply a ‘technical filter’ to make sure that all the potential strategic options being considered would work on our network; we reject any that would not meet technical standards or would not work in practice.

There are potentially many ways to meet the identified need, so we carry out further network modelling to better understand the issues. We then apply a ‘benefit filter’, making sure that each strategic option we take forward for further appraisal has some benefit over another, similar option.

We consider at a broad regional scale where the required infrastructure could be accommodated (with no corridors or sites considered at this stage), along with the most appropriate technology to be used.

Options appraisal is the method we use to compare options and differentiate between their relative costs and benefits to best meet the needs of our customers and consumers whilst also meeting our various statutory duties and other commitments (see Our Approach to Options Appraisal for more information).

Undertaking options appraisal means that stakeholders can see how we have made our judgements and have balanced our legal duties.

We consider high-level environmental, socio-economic and technical issues alongside the cost for each strategic option.

The identification of a strategic proposal establishes the scope of the project which commences with Options identification and selection.



# Options identification and selection



**The purpose of Options identification and selection is to select, using consultation feedback, a preferred corridor (or site) with a preliminary route swathe which can be developed during the next project phase.**

Our initial work will identify a broad study area within which a range of potential corridor options (or sites) for the new infrastructure will be considered. These are identified by considering environmental and other constraints whilst using an outline engineering design and assumptions.

We make an initial technology assumption that we will use an overhead steel lattice line as this would be the most economical and efficient way to provide the connection in line with our duties and the National Policy Statement on Energy Networks<sup>2</sup>.

Where feasible, we seek to avoid nationally designated landscapes, for example, National Parks and Areas of Outstanding Natural Beauty. Where these important areas cannot reasonably be avoided, we carefully consider the use of underground cable technology in line with national policy and our Stakeholder, Community and Amenity Policy.

Consideration is given in the first instance to avoiding areas of greatest sensitivity, and where careful routing cannot reduce impacts, other mitigation measures are incorporated.

When corridor options have been identified, a review of these is undertaken to determine whether any could be discounted from consideration at an early stage. Options appraisal is carried out to determine a preferred option, or options, that would then be consulted on.

Within the corridor options taken forward, we identify a preliminary route swathe, which indicates a more likely location for the development. There may, for example, be sensitive habitats or cultural heritage sites within the corridor and in these cases, we would aim to avoid these constraints. Showing a preliminary route swathe at this stage allows for more meaningful engagement and consultation, prompting more beneficial feedback.

<sup>2</sup> Overarching National Policy Statement for Energy (EN-1) and National Policy Statement for Electricity Networks (EN-5)



For infrastructure such as electricity sub-stations a similar process is followed, with siting studies being used to identify suitable locations, based upon a combination of design requirements and the need to avoid major constraints.

Stakeholders and the public are consulted before detailed design work is undertaken, allowing for feedback to have greater influence in the development of the location, design and mitigation proposals of the project.

Consultation will be focussed on communities along the preferred corridor who may be affected, although we will encourage other communities within the study area (who may not be directly affected) to comment.

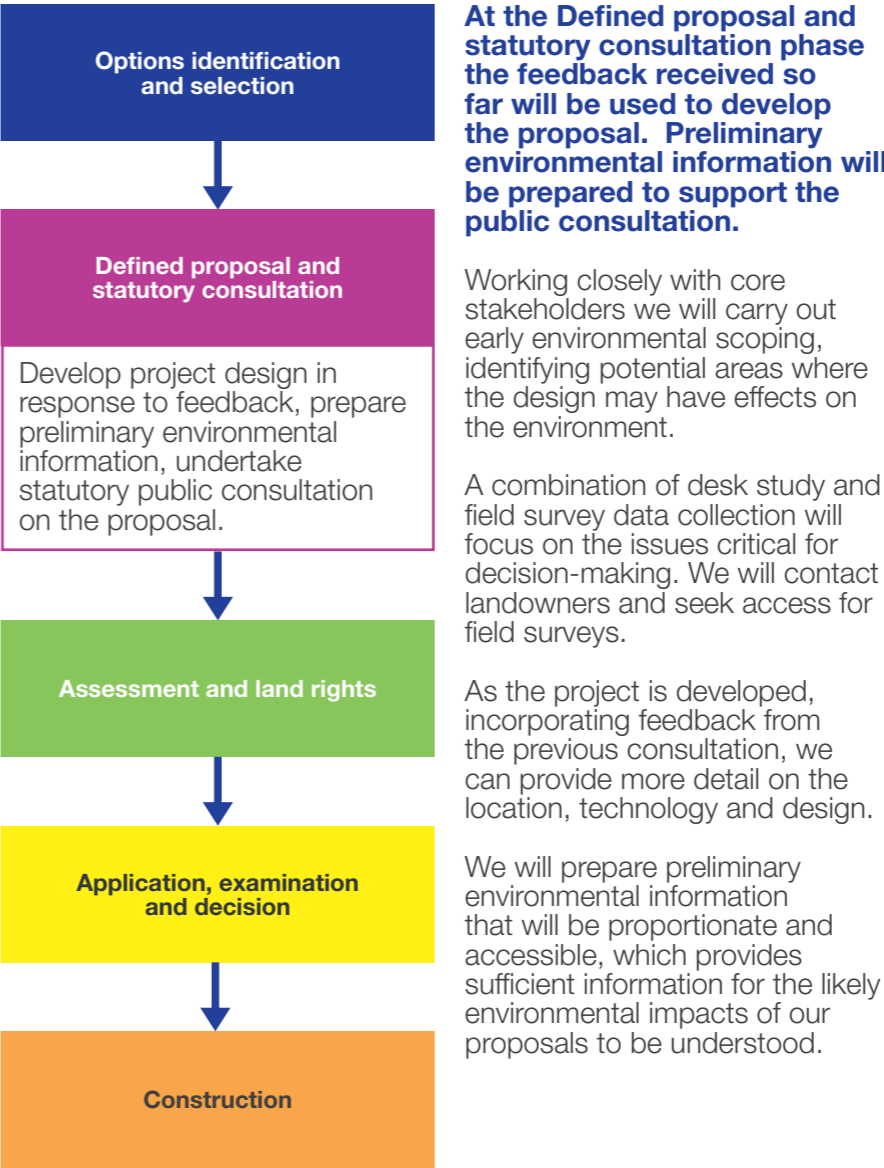
This early consultation provides an opportunity for those who may be affected not only to comment upon the preferred corridor option, but also on the location, technology and design of the preliminary route.

Details of the feedback we receive will be included in a Consultation Report which will form part of the consent application.

Consultation feedback will help shape the development of the project during the next phase of Defined proposal and statutory consultation.



# Defined proposal and statutory consultation



**At the Defined proposal and statutory consultation phase the feedback received so far will be used to develop the proposal. Preliminary environmental information will be prepared to support the public consultation.**

Working closely with core stakeholders we will carry out early environmental scoping, identifying potential areas where the design may have effects on the environment.

A combination of desk study and field survey data collection will focus on the issues critical for decision-making. We will contact landowners and seek access for field surveys.

As the project is developed, incorporating feedback from the previous consultation, we can provide more detail on the location, technology and design.

We will prepare preliminary environmental information that will be proportionate and accessible, which provides sufficient information for the likely environmental impacts of our proposals to be understood.

For Development Consent Order (DCO) projects we develop and consult with the relevant local planning authorities on our Statement of Community Consultation, which sets out who and how we will consult on our proposals during the statutory consultation.

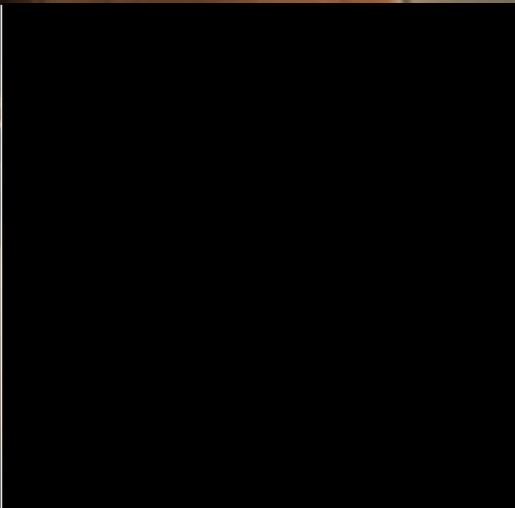
During this stage, we carry out a public consultation on our proposed application. We engage with local councils, communities, expert consultee bodies and those who may be affected by our proposals.

The information presented in support of this consultation will describe the single defined proposal, and will summarise the key routeing, design, socio-economic and environmental issues associated with the project, and the options considered.

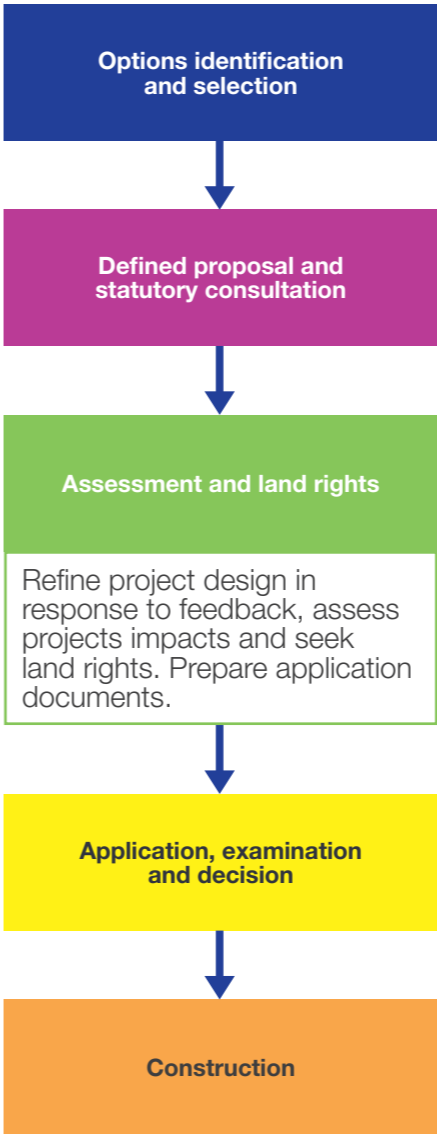
After the consultation period we carefully consider the comments received and make any necessary amendments to the project.

We will produce a Consultation Report which sets out the feedback we have received throughout the process, how we have responded to it.

In the next phase of Assessment and land rights we refine the design, undertake environmental assessment and seek land rights for the proposal.



# Assessment and land rights



**During Assessment and land rights we use consultation feedback to produce detailed proposals on which we undertake environmental assessment and seek land rights.**

Whether the proposed development is predominantly overhead, underground or sub-sea, further detailed survey and assessment work may be carried out to help refine the route (or site) which best balances our duties, obligations and the views of stakeholders. In doing this we seek to avoid as far as practical impacts on people, communities, environmentally sensitive areas and any other important receptors.

We may use options appraisal to compare the technical, economic, environmental and socio-economic performance of alternative alignments or scheme modifications.

Where we are required to do so, we will carry out an Environmental Impact Assessment (EIA) of the project.

Design changes introduced following consultation to mitigate against likely significant effects will be included as ‘embedded design mitigation’, and may be scoped out of the assessment, thus reducing the overall scope of the EIA, making it more proportionate and accessible.

At this stage the project development boundary and design parameters used for the statutory consultation will be refined to reflect the final design for EIA, but consideration is given to retaining scope for flexibility during the construction phase, through measures such as limits of deviation.

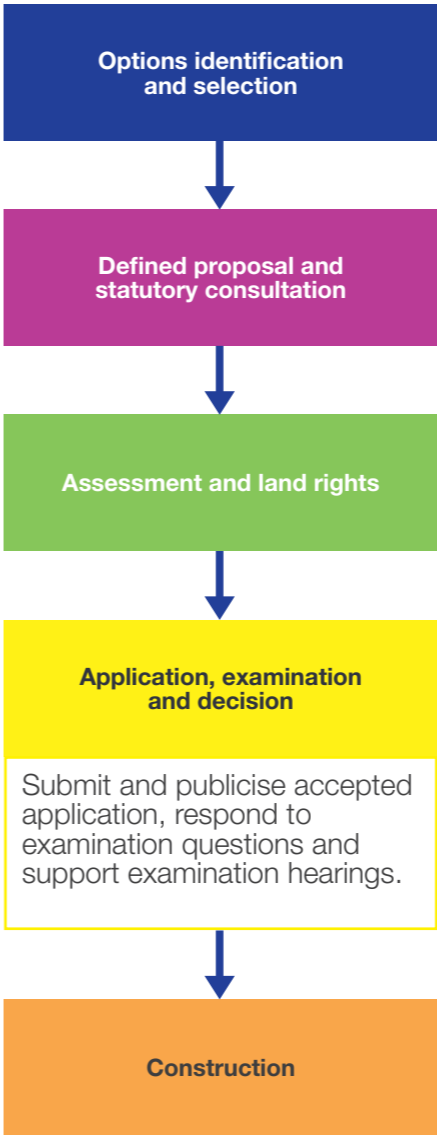
We also prepare mitigation plans such as a draft Construction Environmental Management Plan that describes the well-established and effective control measures that will be used during construction to protect the environment. Such plans, which are committed to and included in draft consent requirements, can be used in EIA scoping.

We will continue discussions with directly affected landowners to agree land agreements to ensure that we have all necessary land rights to construct the scheme.

The next phase is the submission of our application for examination and development consent.



# Application, examination and decision



**This phase includes the application submission, examination and decision.**

For Development Consent Order (DCO) projects, the completed application is submitted to the Planning Inspectorate, using the prescribed form and procedures for DCO applications in England and Wales. Where the determining authority for a project is the local planning authority a planning application will be submitted for decision under Town and County Planning Act.

The Planning Inspectorate, acting on behalf of the relevant Secretary of State, has 28 days to decide whether to accept the application for examination.

Following acceptance, we will notify the prescribed persons and bodies and publicise the accepted application, making the full application available for inspection at locations in the vicinity of the proposed development. We will also indicate the period for interested parties wishing to make relevant representations to the Planning Inspectorate.

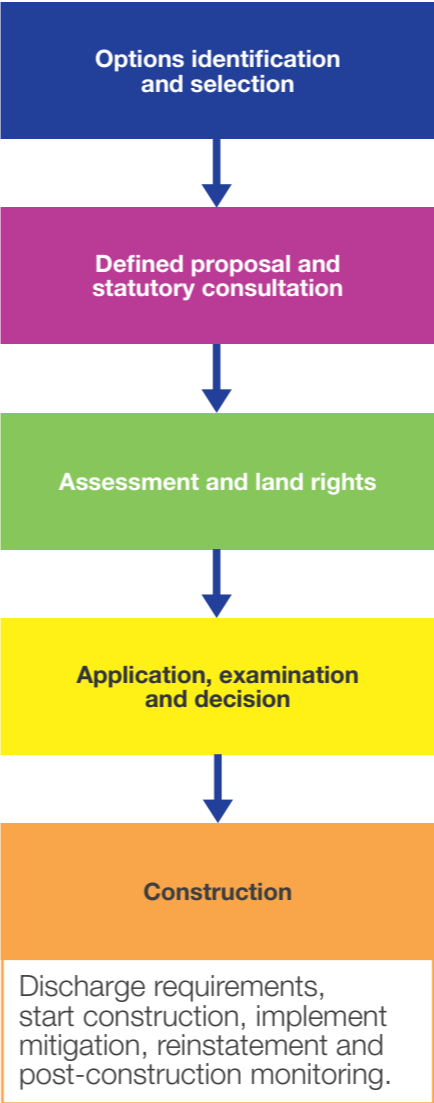
Soon after the application is accepted the examining authority will be appointed. They will use the views put forward in the relevant representations, to carry out an initial assessment of the principal issues. The Planning Inspectorate will make relevant representations available for public inspection.

The examining authority will hold a preliminary meeting which marks the start of the examination. The authority ensures an independent and public scrutiny of the proposals, and carefully considers the need, benefits and adverse impacts of the proposal.

The examining authority will make a recommendation to the Secretary of State, who makes the final decision on the application. For energy proposals the decision is made by the Secretary of State for Business, Energy and Industry Strategy.



# Construction



**After consent has been granted we will discharge necessary requirements and start construction.**

Development consents granted by Secretary of States are subject to requirements (or conditions for planning applications).

Many of the requirements will be drafted and agreed in principle during or after the examination. These may include implementation of detailed mitigation, management or monitoring plans to address environmental issues such as ecology, landscaping, flood risk and traffic management.

Some of the requirements must be agreed before certain construction activities can start on site. Other requirements may relate to landowners or communities, where measures may need to be introduced to reduce disruption during construction.

Pre-construction surveys are normally required before any works begin on site if too long a period has lapsed since previous surveys, to either confirm that the baseline environmental conditions have not changed, or to inform the detailed implementation of mitigation activities during construction.

Pre-construction checks are also carried out for protected species that may have moved on site since the completion of the surveys that informed the EIA.

At this stage agreements are finalised with landowners and arrangements made for entry to land for survey and construction.

We will implement the agreed mitigation, commitments and undertakings during the construction phase.

Each project will have an environmental manager or clerk of works and a communications officer to engage with the public and liaise with the construction team.

When construction is complete, we will reinstate temporary construction areas, implement mitigation measures, aftercare commitments and post-construction monitoring, meeting the requirements set out in the relevant consent.

# The Holford Rules

**These guidelines on overhead line routeing were first set out in 1959. They are presented in the National Policy Statement for Electricity Networks Infrastructure (EN-5) and will continue to form the basis on which we route overhead lines.**

Since the formulation of the original Rules, formal requirements for environmental assessment have been introduced. Whilst environmental assessment for overhead lines addresses wider topics than the visual amenity issue on which the Rules concentrate, they remain a valuable tool in selecting and assessing potential route options as part of the environmental assessment process. The Rules and our added notes of clarification are set out opposite:

**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**

Investigate the possibility of alternative routes, avoiding where possible the areas of the highest amenity value. The consideration of alternative routes must be an integral feature of environmental statements.

Areas of highest amenity value include: Areas of Outstanding Natural Beauty; National Parks; Heritage Coasts; World Heritage Sites and Registered Parks and Gardens.

**Rule 2**

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

**Note on Rule 2**

Some areas (e.g. Sites of Special Scientific Interest) may require special consideration for potential effects on ecology (e.g. to their flora and fauna). Where possible choose routes which minimise the effects on the setting of areas or architectural, historic and archaeological interest including Conservation Areas, Listed Buildings, Listed Parks and Gardens and Ancient Monuments. Again, recognise that some sites of value may not be within designated areas.

**Rule 3**

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

**Note on Rule 3**

Where possible choose inconspicuous locations for angle towers, terminal towers and sealing end compounds.



**Rule 4**

Choose tree and hill backgrounds in preference to sky backgrounds wherever possible. When a line has to cross a ridge, secure this opaque background as long as possible, 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.

**Note on Rules 4 and 5**

Utilise background and foreground features to reduce the apparent height and domination of towers from main viewpoints. Minimise the exposure of numbers of towers on prominent ridges and skylines. Where possible avoid cutting extensive swathes through woodland blocks and consider opportunities for skirting edges of copses and woods. Protect existing vegetation, including woodland and hedgerows, and safeguard visual and ecological links with the surrounding landscapes.

**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 concentration of lines or ‘wirescape’.

**Note on Rule 6**

In all locations minimise confusing appearance. 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 the lines.

**Rule 7**

Approach urban areas through industrial zones, where they exist; and when pleasant residential and recreational land intervenes between the approach and the substation, carefully assess the comparative costs of undergrounding.

**Note on Rule 7**

When a line needs to pass through a development area, route it so as to minimise as far as possible the effect on development.

Alignments should be chosen after consideration of effects on the amenity of existing development and on proposals for new development.

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.

**Supplementary notes**

**Residential Areas**

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

**Designations of County, District and Local Value**

Where possible choose routes which minimise the effect on Special Landscape Areas, areas of Great Landscape Value and other similar designations of County, District or Local Value.

**Alternative Tower Designs**

In addition to adopting appropriate routeing, evaluate where appropriate the use of alternative tower designs now available where these would be advantageous visually, and where the extra cost can be justified.

# Our statutory duties

**These are some of National Grid’s statutory duties most relevant to our development of new infrastructure.**

Section 9(2) of the Electricity Act 1989 (General duties of licence holders)

“It shall be the duty of the holder of a licence authorising him to transmit electricity: (a) to develop and maintain an efficient, co-ordinated and economical system of electricity transmission;...”

Section 38 and Schedule 9 of the Electricity Act 1989

“(1) In formulating any relevant proposals, a licence holder or a person authorised by exemption to generate, transmit, distribute or supply electricity:

(a) shall have regard to the desirability of preserving natural beauty, of conserving flora, fauna and geological or physiographical features of special interest and of protecting sites, buildings and objects of architectural, historic or archeological interest; and

(b) shall do what he reasonably can to mitigate any effect which the proposals would have on the natural beauty of the countryside or on any such flora, fauna, features, sites, buildings or objects.”

Section 11A(2) of the National Parks and Access to the Countryside Act 1949 (Duty of certain bodies and persons to have regard to the purposes for which National Parks are designated).

“In exercising or performing any functions in relation to, or so as to affect, land in a National Park, any relevant authority shall have regard to the purposes specified in subsection (1) of section five of this Act and, if it appears that there is a conflict between those purposes shall attach greater weight to the purpose of conserving and enhancing the natural beauty, wildlife and cultural heritage of the area comprised in the National Park.”

Section 85 of the Countryside and Rights of Way Act 2000 (General duty of public bodies etc) “(1) In exercising or performing any functions in relation to, or so as to affect, land in an area of outstanding natural beauty, a relevant authority shall have regard to the purpose of conserving and enhancing the natural beauty of the area of outstanding natural beauty.”

Section 40 of the Natural Environment and Rural Communities Act 2006 states that “Every public body must, in exercising its functions, have regard, so far as is consistent with the proper exercise of those functions, to the purpose of conserving biodiversity.”

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