nationalgrid

VISUAL IMPACT PROVISION (VIP)

Landscape and Visual Impact Methodology

Introduction

This document accompanies National Grid's policy to use the Visual Impact Provision for the benefit of national parks and AONBs[1]. It sets out a summary of the process and methodology that will be used to identify existing National Grid infrastructure that has the greatest impact on National Parks and AONBs and offers the greatest opportunities for enhancement. The emphasis is on the first stage of the work, which is to make a comparative assessment of the landscape and visual impacts of the transmission lines that lie within designated areas. Brief reference is also made to subsequent stages of the work, but these are not considered in detail here.

This document is likely to evolve, as stakeholders and the Stakeholder Advisory Group become involved, and as professional input is received. It has been principally prepared by Prof. Carys Swanwick, a leading landscape expert retained by National Grid for this project. Any further versions or additions will be published on the National Grid website.

Scope and definitions

For the purposes of this work "Visual Impact" will be interpreted as meaning landscape and visual impacts (or effects), as commonly understood in the process of landscape and visual impact assessment (LVIA)[1], where:

- **landscape impacts** means impacts or effects on "the landscape as a resource in its own right". (GLVIA3 Para 2.21)
- **visual impacts** means impacts or effects on "specific views and on the general visual amenity experienced by people". (GLVIA3 Para 2.21)

The terms impacts and effects are considered to be interchangeable for the purposes of this study but in general the term impacts will be used because of its prominence in the title of the Visual Impact Provision.

General approach

The proposed approach might best be thought of as a "reverse" landscape and visual impact assessment. Rather than the normal application of this process to proposed schemes and developments that do not yet exist, it will in this case be applied to judge the relative impacts of existing electricity transmission infrastructure. The advantage of this approach is that it is familiar to many stakeholders, has been in existence for some time and has been scrutinised and debated through preparation and application of three editions of published guidance between 1995 and 2013. The overall process is clearly established but there is a requirement for the framework to be tailored to suit particular applications and contexts. The specific approach to be used in the VIP assessment is explained in outline below, but will be the subject of further refinement and discussion with the Stakeholder Advisory Group.

Professional judgement is key to assessing landscape and visual impacts but there is a need for the judgements that are made to be reasonable and based on clear and transparent methods. Suitably qualified and experienced landscape professionals will be invited to carry out the landscape and visual impact assessments for the VIP but even so there may be differences in the judgements made, especially as the scale of the work required in a relatively short timescale means that it will need to be split between a number of different professionals. A key part of the process will therefore be to develop a shared understanding of the proposed method and its specific application to the VIP. This will be achieved through one or more initial workshops and benchmarking, including a joint site visit, then by independent peer review of the outputs from the studies and finally by involvement of the Stakeholder Advisory Group in reviewing the conclusions.

1 Visual Impact Provision: Our approach to existing electricity transmission lines in National Parks and Areas of Outstanding Natural Beauty, published by National Grid in 2013.
2 See Guidelines for Landscape and Visual Impact Assessment (3rd Edition), published by Routledge in 2013 on behalf of the Landscape Institute and the Institute of Environmental Management and Assessment, hereafter referred to as GLVIA3.

Overall Process

The aim of the project is to identify the stretches of existing transmission lines in designated areas that have the most important adverse impacts on the landscape and on people's views and visual amenity. The overall process will be the same for both landscape and visual impacts, as defined above, but the detail will be different for each. The common steps will be as follows:

- Define an appropriate study area, sufficient to cover all the potential landscape and visual impacts, for each section of line to be considered;
- Identify those aspects of the existing landscape or visual environment that are affected by the transmission line - these can be considered as the 'receptors' (in LVIA language) of the impacts;
- Identify, list and briefly describe the impacts of each specific section of transmission line;
- Assess the importance of each impact identified for each section, using a standard assessment framework
- Compare the level of importance of the impacts of each section. This will probably require some sort of scoring according to levels of importance. Although not generally recommended in LVIA, scoring may be necessary to achieve the right level of differentiation between the landscape and visual impacts of different sections of transmission lines in different locations, which will be essential to aid decision making.

Defining study areas

Early decisions will be needed on the extent of the areas to be assessed as this is likely to influence the way work is divided between different contractors. It is probable that a desk study, based on National Grid's existing work on the Zones of Theoretical Visibility (ZTVs)[2] of the transmission lines, combined with nationally available digital information on landscape character, using the national landscape typology[3] in England and LANDMAP and related data in Wales, will provide this high level overview. This should result in the identification of a series of assessment sections based on the area over which the existing transmission line is visible and is likely to have a reasonably consistent relationship with the character of the landscape in which it lies. Assessment sections will then be allocated to groups which are similar in size and located in reasonable geographical proximity to assist with the practicalities of carrying out the work. The areas defined at this stage will provide the starting point for detailed work on each assessment section but the study areas will need to be refined subsequently by more focused desk and field work.

Framework for assessing the importance of the impacts

The approach will be based on the framework set out in GLVIA3, adapted for assessment of existing transmission lines. It will, subject to final approval by stakeholders, consist of the following steps, applied to each assessment section:

Step 1: Assess against criteria

Make judgements about each identified impact in terms of:

- the **susceptibility** of the receptor to the specific impacts of the existing transmission line;
- the **value** of the receptor affected;
- the **size or scale** of the impact (how much of an effect it has);
- the **geographical extent** of the area that will be affected;

Step 2: Combining the judgements

- combine the judgements about susceptibility to change and value to assess the **sensitivity of the receptor;**
- combine the judgements about the scale and extent of the impacts to assess the **magnitude of the impact**;
- combine the assessments of sensitivity and magnitude to inform judgements about the relative **importance of the impacts**.

2 A Zone of Theoretical Visibility is a digitally mapped area of the land from which an object, in this case a section of transmission line, may theoretically be visible.
3 Available, by agreement, from Natural England.

Assessing the importance of landscape impacts

In interpreting this framework to judge the landscape impacts a clear framework of criteria will be agreed to assist in consistent assessment of the susceptibility of different host landscapes to the effects of existing transmission lines on landscape character. These will be based on established practice from other work on transmission line routing[4] which in turn is based on the content of Topic Paper 6[5]. It is likely to be based on a wide range of criteria (related to factors such as landform, land cover, settlement pattern, scale, the nature of skylines, and degree of apparent human influence, among others) and it will also reflect the 'Holford rules'.

The question of the value of landscape receptors will need careful consideration. By its very nature the work is concerned with designated landscapes of national value for their natural beauty but the landscapes within designated areas do nevertheless vary in their character and quality. It may therefore be appropriate to make a fine grained assessment of the value of the landscape character areas affected in the designated area. This will draw on statements about the special qualities contributing to the natural beauty of individual designated areas, on established criteria[6] such as landscape quality and condition, scenic quality, recreational value, perceptual aspects and associations, and on other information such as the extent and setting of heritage assets including registered parks and gardens.

Assessing the importance of visual impacts

There is less need to specifically tailor the GLVIA3 framework for assessing visual impacts. The receptors of visual impacts are the people in the zone of theoretical visibility whose views or visual amenity are affected by the existing transmission lines. The types of viewers and the places where they are affected will need to be identified. Their susceptibility to the impacts of existing transmission lines will be determined, as set out in GLVIA3 (Para 6.33) by the nature and activity of the people and the extent to which their attention is likely to be focused on the landscape. Residents, communities where views contribute to the landscape setting, those engaged in outdoor recreation where the focus is on the landscape, and visitors to heritage assets will be considered as the most susceptible groups. Other groups, notably people at their place of work and travellers on road, rail or other transport routes, will need to be treated on their merits depending upon the likely level of engagement with the landscape around them.

The value attached to particular views will need to take account of recognition through planning designations, promotion through appearance in guidebooks or on maps, provision of facilities for their enjoyment and interpretation and references to them in literature or art if they are particularly well known. The quality of views that are not particularly well-known or promoted may also be taken into account.

Identifying the most important impacts

All the identified impacts, both landscape and visual, will finally be assessed for their overall importance based on the combined judgements of sensitivity and magnitude. It is common practice to assign the impacts to categories of importance (or 'significance' in formal LVIA). In this case it is likely that four categories of importance (major/moderate/minor/negligible) will be used. This will be converted into a simple scoring system that can then be used to give each assessment section an overall score for the importance of its landscape and visual effects. Once the assessments have been made they will be peer reviewed, discussed by the Stakeholder Advisory Group and agreed. This in turn will inform discussions about ranking of the assessment sections, according to the importance of their landscape and visual impacts, so that priority cases can be agreed and taken forward for further investigation.

Tasks to be undertaken

The tasks that will need to be undertaken are briefly summarised in Table 1. These specific tasks will be carried out for each of the assessment sections defined by the initial map overview referred to above.

4 For example, National Grid plc (2011) 'Assessment of the Landscape Sensitivity of the Study Area (Mid Wales) to 400 kV Overhead Lines on Steel Towers'. which sets out an approach to assessing the relative sensitivity of different landscape character types or character areas.
5 Swanwick, C. (2003) Topic Paper 6. Techniques and criteria for assessing capacity and sensitivity. Countryside Agency and Scottish Natural Heritage. (published in support of the Landscape Character Assessment Guidance, 2002)
6 See for example Box 5.1 in GLVIA3 (page 84) and Natural England (2011) Guidance for assessing landscapes for designation as National Park or Area of Outstanding Natural Beauty in England.

Task	Assessment of Landscape Impacts	Assessment of Visual Impacts
Task 1	Locate existing LCAs, identify those landscape character types/areas which are affected and review descriptions and key characteristics. Locate information relevant to assessing landscape value, including statements of special qualities.	Review ZTV and use map information and other available sources to identify potential visual receptors and the locations where they will be affected. Identify likely viewpoints to be used for visual assessment
Task 2	Field check appropriateness of descriptions and key characteristics and amend as appropriate	Field check validity of ZTV and roughly amend to allow for intervening barriers to views such as vegetation and buildings.
Task 3	Make field assessment of the impact of the existing transmission line on landscape character and decide on landscape receptors.	Make field assessment of identified viewpoints - categorise in terms of whose views they represent (the receptors) and the susceptibility of those receptors to the impacts of the transmission line.
Task 4	Make field assessment of the sensitivity of the receptors to the transmission line using agreed criteria	Make field assessment of the views from each viewpoint to identify the visual impacts of the transmission line on the views of the identified receptors.
Task 5	Make field assessment of the value of the landscape affected using existing information and agreed criteria	Use both desk study and field assessment to judge the value of particular views.
Task 6	Make field assessment of the scale and nature of the impacts on the landscape, including the geographical extent of the area which they influence.	Make field assessment of the scale and nature of the visual impacts, including the geographical extent of the area over which they may be experienced.
Task 7	Review and summarise individual judgements and for each impact assess sensitivity of the landscape receptors and the magnitude of the impact on the landscape.	Review and summarise individual judgements and for each impact assess sensitivity of the visual receptors and the magnitude of the visual impact.
Task 8	Combine judgements of sensitivity and magnitude to assess the importance of each landscape impact.	Combine judgements of sensitivity and magnitude to assess the importance of each visual impact.
Task 9	Prepare summary table of all judgements and final assessment of importance for all landscape impacts	Prepare summary table of all judgements and final assessment of importance for all visual impacts.
Task 10	Apply scoring system to assessed importance of impacts for all identified landscape and visual impacts and add to produce total score for assessment section.	

Further stages of assessment

Once the Stakeholder Advisory Group have agreed the priorities from this first stage of assessment an agreed short list of candidate schemes will be taken forward for more detailed assessment. This will involve the identification of mitigation options, and further environmental assessment of the impacts that the preferred mitigation option may have in each case. This further assessment will require not only more detailed assessment of the landscape and visual impacts enhancements resulting from the mitigation but also parallel and linked assessments of both technical feasibility and of the impacts that the mitigation itself may have on other environmental features (including ecology, historic environment, and the water environment, among others) and on land use and the socio-economic context. This will allow further ranking of candidate schemes to inform final choices of schemes to be implemented, taking account of economics and value for money.

Glossary

Designated Areas	Locate existing LCAs, identify those landscape character types/areas which are affected and review descriptions and key characteristics. Locate information relevant to assessing landscape value, including statements of special qualities.
Development	Any proposal that results in a change to the landscape and/or visual environment.
Enhancement	Proposals that seek to improve the landscape resource and the visual amenity of the proposed development site and its Wider setting, over and above its baseline condition.
Heritage	The historic environment and especially valued assets and qualities such as historic buildings and cultural traditions.
Land Cover	The surface cover of the land, usually expressed in terms of vegetation cover or lack of it. Related to but not the same as land use.
Landform	The shape and form of the land surface which has resulted from combinations of geology, geomorphology, slope, elevation and physical process.
Landscape	An area, as perceived by people, the character of which is the result of the action and interaction of natural and/or human factors.
Landscape and Visual Assessment (LVIA)	A tool used to identify and assess the likely significance of the effects of change resulting from development both on the landscape as an environmental resource in its own right and on peoples views and visual amenity.
Landscape Character	The distinct and recognisable pattern of elements in the landscape that makes one landscape different from another, rather than better or worse.
Landscape Character Type	These are distinct types of landscape that are relatively homogeneous in character. They are generic in nature in that they may occur in different areas in different parts of the country, but wherever they occur they share broadly similar combinations of geology, topography, drainage patterns, vegetation and historical land use and settlement pattern, and perceptual and aesthetic attributes.
Landscape Quality	A measure of the physical state of the landscape. It may include the extent to which typical character is represented in individual areas, the intactness of the landscape and the condition of individual elements.
Magnitude (of effect)	A term that combines judgements about the size and scale of the effect, the extent of the area over which occurs, whether it is reversible or irreversible and whether it is short or long term in duration.
Receptors	Defined aspects of the landscape resource that have the potential to be affected by a proposal.
Sensitivity	A term applied to specific receptors, combining judgements of the susceptibility of the receptor to the specific type of change or development proposed and the value related to that receptor.
Significance	A measure of importance or gravity of the environmental effect, defined by significance criteria specific to the environmental topic.
Susceptibility	The ability of a defined landscape or visual receptor to accommodate the specific proposed development without undue negative consequences.
Visual Amenity	The overall pleasantness of the views people enjoy of their surroundings, which provides an attractive visual setting or backdrop for the enjoyment of activities of the people living, working, recreating, visiting or travelling through an area.
Zones of Theoretical Visibility (ZTVs)	A map, usually digitally produced, showing areas of land within which a development is theoretically visible.