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The North Wales Wind Farms Connection Project

Environmental Statement Chapter 7 -
Landscape and Visual
Technical Appendix 7.5

Application reference: EN020014

March 2015



Regulation reference: The Infrastructure Planning
(Applications: Prescribed Forms and Procedure)
Regulations 2009 Regulation 5(2)(a)

Document reference 6.20.5

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Appendix 7.5: Photographs, Wireframes and Photomontages

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The Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009 – Regulation 5(2)(a)

The Planning Act 2008

**The Infrastructure Planning (Applications: Prescribed Forms and Procedure)
Regulations 2009**

Regulation 5(2)(a)

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Appendix 7.5: Photographs, Wireframes and Photomontages

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Photographs, Wireframes and Photomontages

- 1.1.1 The photomontages were produced by following relevant methodologies from the guideline documents listed below:
- The Landscape Institute/IEEMA Guidelines for Landscape and Visual Impact Assessment (GLVIA3);
 - Landscape Institute Advice Note 01/09 (Use of photography in landscape and visual assessment); and
 - Scottish Natural Heritage (SNH) Visual Representation of Windfarms: Good Practice Guidance.
- 1.1.2 For each photomontage location a series of high resolution photographs were taken with full sensor SLR camera with 50mm prime lens, which gives an angle of view similar to that of the human eye (approximately 40°). Precise panoramic photographs were taken by mounting the camera in landscape format on a tripod which has been set at eye level (1.6m) and levelled horizontally and laterally by means of a camera mounted spirit level. Photos were stitched together using industry standard software.
- 1.1.3 GPS locations were recorded of the photo location and viewpoint reference markers, giving the relevant grid reference and height data.
- 1.1.4 The proposed overhead line was created in the 3D modelling application (Autodesk 3D Studio Max) using data received from engineers, along with a terrain model of the surrounding area, produced using OS Landform xyz data.
- 1.1.5 Viewpoint cameras were created with the same settings as the camera and lens and located in the 3D modelling application using recorded GPS co-ordinates. Reference markers were placed using recorded co-ordinates used to align the cameras, matching precisely the view to the photograph.
- 1.1.6 A lighting environment was then set up in the model, re-creating the same light as the conditions when the photo was taken. Textures and details were also added to model.
- 1.1.7 For each photomontage, wireframe renders were generated, indicating the appearance of the proposed overhead line. These wireframes are geometrically accurate depictions of the proposed overhead line superimposed on a digital terrain model. The wireframes were produced based on a 1:10,000 scale digital terrain dataset (OS Land-Form PROFILE) using a model of the proposed wooden poles, which was also generated electronically to provide an accurate depiction of the appearance of the overhead line.
- 1.1.8 Wireframes are representative of the maximum theoretical visibility of the proposed overhead line on bare ground. In reality, the visibility of the line would be variable depending on both the weather, intervening screening from vegetation and the lighting conditions.

- 1.1.9 For selected viewpoints, photorealistic renders at high resolution were produced using 3D Studio Max. The renders were then imported into Photoshop and overlaid onto original photo. With the rendered views aligned to the photography, a mask was applied to hide aspects of the proposed development that would be occluded by existing features. This process was performed on all views.
- 1.1.10 The photo viewpoints were laid out on A3 foldout pages (297 x 841mm), allowing the viewer to gain a clearer impression of the proposed linear development in the landscape. The photomontages were produced as panoramic images by 'stitching' together of a number of single-frame images, these along with the wireframes, were printed on a single landscape format on a 297 x 841mm sheet, which folds out from an A3 document. A recommended viewing distance is displayed on the page along with other information such as a location map, viewpoint title, co-ordinates, elevation, photograph date and time, field of view and distance to nearest pole.