SCOTTISHPOWER

SP Transmission Ltd

Black Law Windfarm Extension Grid Connection
Addendum to the 2012 Environmental Statement

August 2014

Black Law Windfarm Extension Grid Connection: Addendum to the 2012 Environmental Statement

Prepared by
LUC and associated Sub Consultants
on behalf of
ScottishPower Transmission Ltd

August 2014

Preface

This Addendum has been prepared in support of the Environmental Statement (ES) which was submitted in October 2012 to the Scottish Government Energy Consents Unit to accompany a Section 37 application for the development of a grid connection for the proposed Black Law Windfarm Extension.

Further copies of the Addendum are available for viewing at:

ScottishPower Energy Networks
Ochil House
10 Technology Avenue
Hamilton International Technology Park
Blantyre
G72 0HT

A hard copy of the Addendum is available to purchase for £300. In addition, the Addendum is available in an electronic format (as PDF for screen viewing only) on CD/DVD for £10.

The Addendum is available for viewing by the public during normal opening hours at the following locations:

South Lanarkshire Council
Planning and Building Standards Services
Clydesdale Area Office
South Vennel
Lanark
ML11 7JT

West Lothian Council
Development Management
County Buildings
High Street
Linlithgow
EH49 7EZ

North Lanarkshire Council
Planning Offices
North Lanarkshire Council
303 Brandon Street
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ML1 1RS

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Main Street
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ML11 1AE

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ML8 4DR

Any representations to the application should be made by completing the online representation form on The Scottish Government, Energy Consents website at

http://www.scotland.gov.uk/Topics/Business-Industry/Energy/Energy-Consents/Support-object

or

by email to The Scottish Government, Energy Consents Unit mailbox at representations@scotland.gsi.gov.uk

or

by post to The Scottish Government, Energy Consents Unit, Scottish Government, 4th Floor, 5 Atlantic Quay, 150 Broomielaw, Glasgow, G2 8LU

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1 Introduction and Context

1.1 This Addendum to the Black Law Windfarm Extension Grid Connection Environmental Statement (2012), herein referred to as 'the ES', has been prepared following modifications to the grid connection route as originally defined and assessed in the ES which was submitted in support of the Section 37 (S37) Application to the Scottish Ministers in October 2012. The location of the proposed grid connection is shown on **Figure A1.1**.

1.2 The ES includes provision for a 25 metre Infrastructure Location Allowance (ILA) which provides flexibility for the final location of individual pole locations, post consent. However, deviation beyond this 25m ILA is proposed at three locations along the route due to local issues, i) to the east of Hill Rigg, ii) to the east of Hole Farm near Kilncadzow, and iii) between Fullwood and the Linnmill Substation, where the route terminates. The locations of the areas of the three proposed modifications are shown on **Figure A4.1**.

1.3 This Addendum has been prepared to present the findings of the assessment of impacts associated with the proposed modifications. Therefore the content of this Addendum updates the relevant section within the ES, where appropriate. Where there are no changes to the proposed grid connection route, baseline or assessment findings, the ES provides the relevant information for determination of the S37 Application.

1.4 The structure of this Addendum is as follows:

- Chapter 2: Description of proposed modifications.
- Chapter 3: Scope of assessment and overview of assessment methodologies.
- Chapter 4: Updated assessment of impacts: Hill Rigg.
- Chapter 5: Updated assessment of impacts: Hole Farm.
- Chapter 6: Updated assessment of impacts: Overhead line at Fullwood and underground cabling to Linnmill Substation.
- Chapter 7: Summary and Conclusions.

1.5 For the sake of clarity, it should be noted that figures from the ES have only been updated within this Addendum where the baseline has altered, or the environmental impacts associated with the proposed modifications are materially different, otherwise all figures in the ES remain valid. The numbering of figures presented within this Addendum remain consistent with those contained within the ES for ease of reference.

2 Description of Proposed Modifications

2.1 This chapter provides a description of the proposed modifications to the route alignment which form the basis of the assessments presented within **Chapters 4-6.** There are a number of minor modifications to wood pole locations with the vast majority of these being accommodated within the 25m ILA. However, due to localised issues, modifications outwith the ILA are required in three locations along the overhead line (OHL) and two sections of the underground cable. An overview of the route presented in the ES and the proposed modifications to the route alignment are shown on **Figure A4.1**. The proposed modifications to the route alignment means that the pole height will no longer exceed 15 metres, whilst there is a reduction in the number of poles which are between 13 – 14 metres, leading to an increase in smaller poles of 10 -11 metres. There is also a reduction in the number of wooden poles required from 128 in the ES to 115 in the Addendum due to the increase in length of the underground cable.

2.2 The proposed modifications at Hill Rigg, Hole Farm, and Fullwood, including the underground cable section, are described below. Details of the proposed modifications shown in the context of the route presented in the ES are shown on **Figures A4.2a-A4.2g**.

Hill Rigg Modifications

2.3 The route presented in the ES follows a sweeping arc around the leeward slope of Hill Rigg following the fence line between pole 51 approximately 800m west of Tamarind House and pole 60 approximately 600m west of Newmains Farm. Due to localised issues relating to the Hill Rigg land parcel, the proposed modification takes a more direct route along the lower slopes of the hillside as shown on **Figure A4.2d**.

Hole Farm Modifications

2.4 The route presented in the ES is located to the east of the row of broadleaf trees north of Carnwath Road. The proposed modification moves the OHL to the west of the row of broadleaf trees north of Carnwath Road, and closer to the small burn to the east of the properties of Hole and Cairn-view as shown on **Figure A4.2e**.

Overhead Line at Fullwood and Underground Cabling to Linnmill Substation Modifications

2.5 The route presented in the ES, was for the OHL to continue west from Fullwood through two areas of woodland before crossing the railway and terminating to the northwest of Cartland. The proposed modification is for the OHL to terminate immediately to the south of the railway line near Fullwood, as shown on **Figure A4.2e**.

2.6 The underground cable section presented in the ES commenced from the terminal pole (pole 1), northwest of Cartland and was routed along Lanark Road (A73) in a generally southerly direction crossing West Nemphlar Road and Stonebyres Weir before connecting into the Linnmill substation. The proposed modification to the underground route commences at the new terminal pole location (pole 1) immediately south of the railway, heading in a generally southerly direction, following the existing road and private track which passes Newsteadings Farm, before re-joining the underground route, as presented in the ES, near Hawthorn Cottage, as shown on **Figure A4.2f** and **A4.2g**. However, there is a minor proposed modification to the underground cable section presented in the ES, where it sweeps to the west between the River Clyde and Lanark Road as shown on **Figure A4.2g**.

3 Scope of Assessment and Overview of Assessment Methodologies

Introduction

3.1 The scope of the assessment presented within this Addendum is set out below.

3.2 The methodologies agreed and adopted within the ES have generally been followed in the assessment of the proposed modifications as presented within this Addendum. Where these differ, this has been set out below.

Planning Policy Context

3.3 The only change to local authority Development Plans since the submission of the original application and accompanying ES in 2012 is the adoption of the SESplan in June 2013. The SESplan is the first Strategic Development Plan (SDP) to cover the south-east of Scotland area and formally replaces the Edinburgh and Lothian Structure Plan 2015 in setting a policy framework for the Local Development Plan, within West Lothian. On the basis that only a small section of the OHL, and none of the proposed modification sections are located within West Lothian, and the strategic nature of the SESplan, this is not considered material to the consideration of the proposed modifications.

Scope of Assessment

3.4 The following table provides a summary of the baseline for the proposed modifications and confirms the requirement for further assessment in relation to each of the environmental topics presented within the ES. Where there is no change to the baseline or notable changes to significant impacts these topics have not been considered further within the Addendum.

Table 1 Baseline Comment and Requirement for Addendum

Topic	Baseline Comment and Requirement for Addendum		
Proposed Modification Area	**Hill Rigg**	**Hole Farm**	**OHL at Fullwood and Underground Cable**
LVIA	Landscape – located within same Landscape Character Type (LCT). Assessment provided in Chapter 4 of the Addendum. Visual – assessed for impacts on locally sensitive receptors including Public Rights of Way (PRoW) and A roads. However, the visualisations have not been updated, as the proposed modifications are deemed to result in only minor or imperceptible views. Assessment provided in Chapter 4 of the Addendum.	Landscape – located within same LCT. Assessment provided in Chapter 5 of the Addendum. Visual – assessed for impacts on locally sensitive receptors including PRoW, A roads, minor roads and Kilncadzow settlement. Assessment provided in Chapter 5 of the Addendum.	Landscape - located within same LCT. Assessment provided within Chapter 6 of the Addendum. Visual - assessed for impacts on locally sensitive receptors including PRoW, A roads, minor roads, the West Coast Line and Cartland settlement. Assessment available in Chapter 6 of the Addendum.
The Water Environment	The proposed modification to the OHL away from the line of the Back Burn is an improvement therefore no re-assessment undertaken. Refer to Chapter 7 of the ES.	The proposed modification to the OHL is closer to the Fullwood Burn tributary 1 therefore there is an updated assessment of construction impacts. Assessment provided in Chapter 5 of the Addendum. There are no predicted residual operational impacts on surface water hydrology, flood risk, water quality, groundwater and water resources. Refer to Chapter 7 of the ES.	During construction there is the potential for runoff, sediment and debris, diversion of watercourses and pollution. Assessment provided in Chapter 6 of the Addendum. During operation, there are no predicted residual impacts on surface water hydrology, flood risk, water quality, groundwater and water resources. Refer to Chapter 7 of the ES.
Ecology	The ES reported no evidence of protected species in the Hill Rigg area, while a current review of aerial images suggests no suitable habitat for those species of interest noted in the ES. Refer to Chapter 8 of the ES.	The ES reported no evidence of protected species in the Hole Farm area, while a current review of aerial images suggests no suitable habitat for those species of interest noted in the ES. Refer to Chapter 8 of the ES.	A revised assessment is provided in the Addendum due to proposed modifications being located in areas of known badger setts. Assessment available in Chapter 6 of the Addendum.
Ornithology	The proposed modification in the Hill Rigg area does not affect the likelihood of disturbance or displacement for any species of high or moderate Nature Conservation Importance, either during the construction phase or the operational phase. For pink-footed geese, two flights totalling 2,400 birds no longer transit the route of the OHL. For both peregrine and curlew, one flight by a single bird no longer transits the OHL.	The predicted numbers of collisions with the OHL following the proposed modification are likely to increase above the number estimated in the ES for pink-footed geese. Assessment available in Chapter 5 of the Addendum.	Impacts arising from the construction and operation of the proposed modification to the underground cable have been scoped out, in line with the approach detailed in the ES. Refer to Chapter 9 of the ES.

Topic	Baseline Comment and Requirement for Addendum		
	Therefore the impact will be less than the number estimated in the ES for pink-footed goose, peregrine and curlew. Refer to Chapter 9 of the ES.		
Cultural Heritage	A potential direct construction impact upon Site 24, Corbinshaw farmstead, is predicted. Assessment available in Chapter 4 of the Addednum. There are no cultural heritage receptors located in close proximity to the proposed modification at Hill Rigg and as such operational impacts on setting have been scoped out. Refer to Chapter 10 of ES.	The closest cultural heritage receptor to the proposed modification at Hole Farm is Collielaw Wood, Roman road **(26)** shown as (Scheduled Monument No. 11528). The realignment means the proposed modification will be c.60m further west than the route presented in the ES, and therefore c. 60m further away from the Scheduled Monument. Therefore, no significant impacts on the setting of cultural heritage assets are predicted. Refer to Chapter 10 of the ES.	The proposed modification to the underground cable follows the same course as trackway (45) to the south-west of Newsteadings Farm (78), and a direct construction impact on the trackway is therefore predicted. Assessment provided in Chapter 6 of the Addendum. Operational impacts are predicted from the presence of the OHL element of the proposed modifications for four sites. Assessment provided in Chapter 6 of the Addendum.
Noise	No change to the assessment of noise impacts. Refer to Chapter 11 of the ES.	No change to the assessment of noise impacts. Refer to Chapter 11 of the ES.	Change to existing baseline due to proximity to properties along the proposed modification to the underground cable section. Assessment provided in Chapter 6 of the Addendum.
Traffic and Transport	No change to the assessment of traffic and transport impacts. Refer to Chapter 12 of the ES.	No change to the assessment of traffic and transport impacts. Refer to Chapter 12 of the ES.	No change to the assessment of traffic and transport impacts. Refer to Chapter 12 of the ES.
Land Use	No change to the assessment of land use impacts. Refer to Chapter 13 of the ES.	No change to the assessment of land use impacts. Refer to Chapter 13 of the ES.	Proposed modifications require a revised assessment for minerals and forestry land uses. Assessment provided in Chapter 6 of the Addendum.
Electric and Magnetic Fields (EMF)	No change to the assessment of EMF impacts. Refer to Chapter 14 of the ES.	No change to the assessment of EMF impacts. Refer to Chapter 14 of the ES.	No change to the assessment of EMF impacts. Refer to Chapter 14 of the ES.

Landscape and Visual Amenity

3.5 The Landscape and Visual Impact Assessment (LVIA) presented within the ES was carried out following guidance contained in the second edition of the *Guidelines for Landscape and Visual Impact Assessment*[1]. Since the LVIA was completed a third edition of the *Guidelines for Landscape and Visual Impact Assessment*[2] has been published.

3.6 The methodology adopted for the updated LVIA presented within the Addendum follows that presented in Chapter 6: Landscape and Visual Amenity of the ES to allow direct comparison of judgements.

3.7 The assessment presented within the Addendum considers potential changes in the landscape and visual impacts presented in the ES associated with the proposed modifications to the grid connection at Hill Rigg, Hole Farm and Fullwood to Linnmill substation. Any minor proposed modifications as outlined in Chapter 2, outwith these specific areas, will remain as described within the ES, and this Addendum should be read in conjunction with Chapter 6: Landscape and Visual Amenity of the ES.

3.8 The visualisations produced to support the ES were carried out to meet Landscape Institute[3] and SNH guidance[4], and the revised and additional visualisations that accompany this Addendum have been prepared using the same methodology.

Desk Based Study

3.9 Prior to any updates to the existing assessment, a desk based review of the proposed modifications was undertaken to scope out those receptors where the impacts arising from the proposed modifications will be the same as, or very similar to the route presented within the ES.

Landscape and Visual Baseline

3.10 For the LVIA presented within the ES, the route corridor (to 100m on either side) was divided into six landscape resource areas which will be directly affected by the OHL, underground cable route and associated construction activities. Each localised landscape resource area comprises a number of elements, features or components which together constitute the landscape resource.

3.11 There have been no material changes to the existing landscape within the vicinity of the grid connection alignment modifications that merit revision to the baseline descriptions presented in the ES. The baseline description presented in the ES has therefore been adopted for this updated assessment.

Landscape and Visual Receptors

3.12 The receptors of potential landscape and visual impacts are those considered within the ES. However, because the revised proposal comprises modifications of the OHL and an increase in the length of the section of underground cable (and consequential reduction in the number of wood poles) this assessment

[1] Landscape Institute and Institute of Environmental Management and Assessment (2002) *Guidelines for Landscape and Visual Impact Assessment: Second Edition (GLVIA).*
[2] Landscape Institute and Institute of Environmental Management and Assessment (2013) *Guidelines for Landscape and Visual Impact Assessment: Third Edition (GLVIA).*
[3] Landscape Institute, 2011, *Practice Advice Note, Photography and Photomontage in Landscape and Visual Impact Assessment. Advice Note 01/11*
[4] SNH, 2006, *Visual Representation of Windfarms: Good Practice Guidance*

focuses only on the receptors where the proposed modifications to the route alignment will be perceptible.

3.13 Perceptible visual changes are likely from two ES Assessment viewpoints, viewpoint 5 – A721 near Muirhead and viewpoint 6 – Minor Road, near Collielaw Cottage, therefore this Addendum includes an updated assessment of visual impacts from these viewpoints, supported by updated visualisations as **Figure A6.11** and **Figure A6.12**.

3.14 Due to the increased length of undergrounding of the southern extent of the proposed modification, it is judged that there will no longer be potential visibility from viewpoint 8 - Craigenhill Road, north of Railway Line and viewpoint 9 - Cartland, south of Greentowers Farm, as presented within the ES. The assessment of visual impacts from these viewpoints has therefore not been considered within the LVIA Addendum.

3.15 One additional viewpoint (not included within the ES), has been identified for consideration within this Addendum, to illustrate the potential visual change associated with the most southerly extent of the proposed OHL and terminal pole location, south of the West Coast Mainline Railway, near Fullwood. This additional viewpoint is shown on **Figure A6.6** and included in relation to the section of underground cabling between Fullwood to Cartland Crags, supported by visualisations as **Figure A6.18**.

Revised Zone of Theoretical Visibility

3.16 To inform the assessment of potential landscape and visual impacts of the proposed modifications, an updated Zone of Theoretical Visibility (ZTV) has been produced, as shown on **Figure A6.6**. A comparative ZTV showing the changes in theoretical visibility between the OHL presented within the ES and the revised OHL route (representing the proposed modifications) is shown on **Figure A6.6a**.

3.17 The ZTV has been generated following the methodology included within the ES, based on a 'bare ground' digital terrain model, which does not take account of screening or filtering by vegetation and localised variations in topography. It therefore illustrates maximum theoretical visibility of the proposal whilst actual visibility, will be reduced in the field by the screening from vegetation, landscape features and other man-made elements. The full methodology for the computer modelling used to produce the ZTV, wireframe diagrams and photomontages that represent the appearance of the proposed grid connection in selected views is set out in **Appendix 6.1** of the ES.

3.18 Due to the relatively limited height of the wood poles, visibility will be limited to sections of the OHL, with only a proportion of the 115 poles visible from any given location within the study area.

Field Survey

3.19 Additional field work was undertaken in June 2014 to inform the assessment of impacts on receptors which may potentially be affected by the proposed modifications to the grid connection route. Field work was carried out in good weather conditions with excellent visibility, and records were made in the form of field notes and photographs.

Consultation

3.20 As part of the preparation of the Addendum, consultation was undertaken in July 2014 with Scottish Natural Heritage (SNH) and South Lanarkshire Council (SLC)[5] with regards to removing viewpoints 8 and 9 of the assessment and the inclusion of an additional viewpoint (viewpoint 10).

The Water Environment

3.21 The assessment of the proposed modifications has been carried out following the same methods as set out in Chapter 7 of the ES.

Field Work

3.22 Informed by a desk based review of the proposed modifications, targeted field work was undertaken in areas where the proposed modifications result in potential new watercourse crossings.

3.23 A site visit was undertaken on 17th June 2014 to assess watercourses that are potentially affected by the proposed modification to the OHL close to Hole Farm and the underground cable route.

Consultation

3.24 SLC was consulted via telephone and email exchange in June 2014 to determine the location and nature of any private water supplies (PWS) which might be impacted by the proposed modifications.

Ecology

3.25 The assessment of modifications follows the methods adopted in chapter 8 of the ES, according to best practice.

Desk based

3.26 The re-assessment has been undertaken using ecological data presented in the ES supported by up-to-date aerial photography to inform the understanding of current land use.

Fieldwork

3.27 Access to the Hill Rigg and Hole Farm area was not possible during the preparation of this Addendum. However, the proposed modifications at Hole Farm could easily be viewed from the adjacent road. Phase 1 Habitat and protected species data collected in support of the ES, coupled with a review of aerial photography, was considered appropriate for the reassessment of this proposed modification.

3.28 A walk-over survey of the proposed modifications between Fullwood and the Linnmill Substation was completed by two experienced ecologists in June 2014, during bright, warm conditions. The fieldwork had two primary aims:

- To identify primary habitats along the proposed modifications to the route and a buffer of up to 50m where access permitted. The Phase 1 habitat method was adopted to ensure comparison with the ES;
- To confirm protected species evidence, primarily badger, presented in the ES. In addition to confirming the status of the existing evidence, any signs of new evidence within the route corridor and a 50m buffer were also recorded.

Ornithology

3.29 The methodology used to assess the impacts of the proposed modifications on ornithological interests is unchanged from that described in Chapter 9 of the ES.

Desk based

3.30 The implications of proposed modifications to the assessed impacts on birds are evaluated through a desk-based examination of the baseline ornithological data in relation to the proposed modifications to the OHL. The likely impacts on ten species of high or moderate Nature Conservation Importance were assessed in the ES, and the likelihood of the proposed modifications affecting the conclusion reached in the ES considered. It should be noted that whilst this is an area of high transition of flights, the ES found that impacts of construction and operation would not be significant and the proposed modifications result in no change to these findings other than predicted.

[5] It was considered that the proposed changes to the route alignment will be imperceptible from the local authority areas of North Lanarkshire Council and West Lothian Council, therefore no additional consultation has been undertaken with these consultees as part of this Addendum.

Cultural Heritage

3.31 This assessment has been carried out to the same scope and assessment methodology as set out in Chapter 10 of the ES.

Desk Based

3.32 The baseline conditions established during the ES have been used along with additional information obtained through desk-based assessment for those areas where the extent of the Core Study Area has been changed as a result of the proposed modifications to the grid connection route.

Field Work

3.33 No additional field survey was carried out, but as the proposed modifications encompass improved pasture fields, modern roads and trackways, it is considered unlikely that any previously unrecorded upstanding archaeological remains which were not identified through the desk-based assessment could survive in the area.

Noise

3.34 The assessment of the proposed modifications has been carried out following the same methods as set out in Chapter 11 of the ES.

Desk Based

3.35 A detailed desk based assessment of construction impacts between Fullwood and Linnmill Substation was carried out to identify properties within 60 metres.

Traffic and Transport

3.36 A desk based assessment of the access points and traffic and transport impacts was carried out using the methods identified in chapter 12 of the ES.

Land Use

Forestry

3.37 The assessment of the proposed modifications has been carried out following the same methods as set out in Chapter 13 of the ES.

Desk Based

3.38 The implications of the proposed modifications to the assessed impacts on forestry are evaluated through a desk-based examination of the baseline data in relation to the areas encompassing a proposed modification. This included the use of site notes and aerial photography.

Field Work

3.39 Targeted field work was undertaken in areas where the proposed modifications result in potential further tree felling.

3.40 A site visit was undertaken on the 26th June 2014 to assess areas of forestry that are potentially affected by the proposed modification between Fullwood and Linnmill substation to identify the woodland cover and trees species in these areas to inform the assessment of the potential impact on trees.

Minerals

3.41 A desk based assessment of the proposed modifications was carried out using the methods identified in chapter 13 of the ES.

Key Issue Raised by Consultees

3.42 Table 2 overleaf outlines the comments from consultees who responded on the information presented in the ES and sets out the measures which have been / will be taken to address any issues which have been raised.

Table 2 Black Law Grid Connection Addendum: Key Issues Raised by Consultees

Consultee	Date of Response	Key Issues	Action Taken
SNH	3rd April 2013	***Otters*** Recommended the production of an Otter Protection Plan.	An Otter Protection Plan will be prepared, post consent, in consultation with SNH.
		Bats Requested clarification as to whether all trees to be felled have been assessed in terms of their potential to support roosting bats.	All trees to be felled were considered with regard to their bat roost potential during the EIA process. However, the potential for trees to support bats changes over time, particularly following severe weather events. It is likely that the bat roost potential of individual trees along the route will develop and change before construction begins, therefore where individual trees are considered to have suitable features for roosting bats, these will be re-surveyed before felling commences.
		Badgers Recommended that a bait marking survey be undertaken to determine the badger territories in the area and the potential for other setts. Also requested the production of a Badger Protection Plan.	The purpose of bait marking studies is to delineate badger territories to inform projects which may result in significant territorial loss. On the basis that the construction of a wood pole OHL is not considered likely to result in any significant territorial loss for badgers, a badger bat marking study is not considered to be required. Notwithstanding the above, a Badger Protection Plan will be prepared, post- consent, in consultation with SNH which will include the area of recently felled ground at Fullwood which is likely to have resulted in change within the local badger population.
		Ornithology Advised on the implementation of a Bird Protection Plan, as well as the installation of bird diverters at 10m intervals along OHL spans identified as posing a medium-high bird collision risk. Also suggested that compensatory habitat management measures for ground nesting birds be implemented.	A Bird Protection Plan will be developed post consent and bird diverters will be installed along spans of the overhead line identified as medium-high bird collision risk.
		Forestry Advised that compensatory planting proposals should be produced and discussed with the Forestry Commission Scotland prior to determination of the application. Suggested that an alternative route, requiring less forestry felling, should be considered if compensatory planting is not undertaken.	Discussions regarding compensatory planting is ongoing between Forestry Commission (Scotland) and ScottishPower Transmission Ltd.
SEPA	20th March 2013	***Flood Risk*** Applicant to ensure that the cable (as it crosses Stonebyres Weir) is secured at an appropriate height above the River Clyde so that water and debris do not come into contact with the cable.	The cable will be located in ducting along the bridge at Stonebyres Weir as outlined in Chapter 4 and Chapter 7 of the ES.
		Environmental Management and Pollution Prevention Requested a condition is imposed requiring production of an Environmental Management Plan (EMP) to be agreed with the planning authority in consultation with SEPA. To be submitted at least two months prior to commencement of any construction works for written approval of determining authority.	An EMP will be produced prior to construction in consultation with South Lanarkshire Council and SEPA.
		Waste Management Stipulated that the production of a Site Waste Management Plan (SWMP) should be imposed as a condition on the granting of consent to the application. To be submitted for written approval to planning authority.	A Site Waste Management Plan will be produced prior to construction.

Consultee	Date of Response	Key Issues	Action Taken
Transport Scotland	15th February 2013	Development is unlikely to have an adverse effect on the local trunk road network. Consultation to be undertaken with Amey Highways as to the feasibility of transportation of materials to the area.	Consultation will be undertaken with Amey prior to construction.
RSPB	4th April 2013	Bird diverters to be installed along spans of the OHL which pose medium-high collision risk to pink footed geese. A post-construction programme for bird carcass searches is recommended to be undertaken using methodology agreed with SNH and RSPB.	Bird diverters will be installed along spans of the overhead line identified as medium-high bird collision risk. Vegetation clearance to be set out in Construction Method Statements (CMS) (as part of the EMP).
West of Scotland Archaeology Service (WoSAS)	18th February 2013	Content with findings of ES. Recommended that a watching brief be maintained on all areas which have moderate potential for producing buried archaeology as noted in the ES (exclude areas under forestry and former open cast sites).	Locations recommended by WoSAS for watching briefs will be included in Written Scheme of Investigation (WSI) to be approved by local authority archaeology services prior to commencement of construction.
Marine Scotland	21st March 2013	Recommended buffer zones being applied between construction activities and watercourses including: Netherton Burn, Back Burn and Fullwood Burn. Advised that felling of forestry should be undertaken at an appropriate distance from streams and removal of all brash and chippings in and around waterbodies. Recommended all mitigation measures proposed in the ES are adhered to during construction and operation.	Mitigation measures proposed within the ES relating to forestry felling and construction will be included in EMP and CMS.
ScotWays	11th April 2013	Requested that Right of Way SL26 and Clyde Walkway (SL54) remain open and free of obstruction during construction and operation of the grid connection.	All Rights of Way will be identified within the EMP and will remain open during construction and operation.
Coal Authority	27th March 2013	Recommended that appropriate remedial measures should be implemented in areas where shallow mine workings and surface mine entries could affect the stability of the OHL.	Measures proposed in relation to construction and operation of the grid connection within areas with previous shallow mine workings and surface mine entries will be detailed within the CMS in consultation with the Coal Authority.
Halcrow	22nd February 2013	Requested verification of peat depths along the route to substantiate the risk of peat stability being 'scoped out' of detailed assessment. Highlighted known depths greater than 50cm along the northern end of the route. Referred to methods for preliminary investigation as outlined in Best Practice Guide (BPG) for Proposed Electricity Generation Developments or geomorphological mapping.	As outlined in the Black Law Windfarm ES (2008), whilst peat is present along the northern section of the grid connection, the ES states 'the potential hazard represented by the peat deposits across the majority of the site is 'insignificant'. Given the construction techniques commonly employed in relation to grid connections supported on wood poles, and the fact that the presence of peat has not previously resulted in peat stability issues when constructing comparable projects in the UK, including the Scotland to Ireland interconnector project, it is considered unlikely that construction and operation of the OHL will result in peat instability issues along the northern section where peat is present. In addition, the BPG for Proposed Electricity Generation Developments referred to within the response is specific to windfarm developments. It should be highlighted that the consultation response relates to an OHL supported by wooden poles, not exceeding 15 metres and as such, windfarm guidance is not considered relevant for drawing comparisons given the differing impacts which are likely to arise during the construction and operation of a windfarm.
Shell UK	28th March 2013	No comments to make on the proposal but requested re-consultation prior to the commencement of construction works.	Shell UK will be re-consulted prior to construction.
Woodland Trust Scotland	27th March 2013	Raised concern over the underground cable route passing within the ancient woodland at NS856440 and also a temporary construction compound being located adjacent to the same. Recommended that a 10m buffer should be applied to this ancient woodland and any construction activities. Object to the proposal due to loss of ancient woodland unless it can be confirmed that the underground cable is not within the ancient woodland at NS856440.	No ancient woodland is proposed to be felled to accommodate the grid connection as outlined in Chapter 6 of the Addendum.

Consultee	Date of Response	Key Issues	Action Taken
Forestry Commission	21st March 2013	Object on the basis of the loss of 12.45 hectares of woodland and the application failing to conform to the SG Policy on Control of Woodland Removal and UK Forestry Standard Guidelines. Recommended that a condition for compensatory planting and additional felling information should be implemented as part of any consent granted. Requested maps at 1:10k scale showing the areas of woodland to be felled in relation to priority habitats including ancient woodland.	The proposed modifications to the grid connection result in a reduction in the area required to be felled as outlined in Chapter 6 of this Addendum. No priority woodlands are proposed to be felled to accommodate the grid connection as outlined in Chapter 6 of the Addendum.
Historic Scotland	27th March 2013	Content that there are unlikely to be any significant adverse impacts.	N/A.
Civil Aviation authority	7th February 2013	The overhead line and supporting structures would not constitute aviation en-route obstruction. Note that MoD should be made aware of proposals.	N/A. See below.
MoD	3rd April 2013	Have no statutory safeguarding objection to the application.	N/A.

References

1 Landscape Institute and Institute of Environmental Management and Assessment (2002) *Guidelines for Landscape and Visual Impact Assessment: Second Edition (GLVIA).*

2 Landscape Institute and Institute of Environmental Management and Assessment (2013) *Guidelines for Landscape and Visual Impact Assessment: Third Edition (GLVIA).*

3 Landscape Institute, 2011, *Practice Advice Note, Photography and Photomontage in Landscape and Visual Impact Assessment. Advice Note 01/11*

4 SNH, 2006, *Visual Representation of Windfarms: Good Practice Guidance*

5 URS (2008) Black Law Windfarm Environmental Statement

4 Updated Assessment of Impacts: Hill Rigg

Introduction

4.1 This chapter presents the results of an assessment of the likely environmental impacts associated with the proposed modification to the route in the Hill Rigg area compared to the route presented in the ES.

Landscape and Visual Amenity

4.2 The landscape and visual impacts which are considered likely as a result of the proposed modification to the OHL at Hill Rigg are described below. This section should be read in conjunction with **Chapter 6: Landscape and Visual Amenity** of the ES.

4.3 The proposed modification to the OHL at Hill Rigg is located solely within the (*C) Springfield Reservoir to the A721 Road* landscape resource area, shown on **Figure 6.3** of the ES. The proposed modification will not result in an increase or decrease in landscape impacts during construction and operation of the proposed grid connection is judged to be minor, and therefore not significant, as previously identified within **Table 6.11** of the ES.

4.4 The proposed modification to the OHL alignment at Hill Rigg, located solely within the *(5) Plateau Farmland* LCT (area *5a Central Plateau*) will not result in a change to the adverse negligible, and therefore not significant**,** impacts on the LCT as a whole during construction and operation of the proposed grid connection, as previously identified in **Table 6.12** of the ES.

4.5 The proposed modifications to this section of the OHL route alignment will not result in changes to the potential landscape impacts during construction or operation, upon adjacent LCTs as identified within the original LVIA.

4.6 The proposed modification to the OHL at Hill Rigg will not change the nature or significance of impacts on the Middle Clyde Valley Special Landscape Area (SLA) during both construction and operation. The impacts on the SLA will remain as not significant.

Description of ZTV

4.7 The comparative ZTV shown on **Figure A6.6a** indicates limited change in the extent of theoretical visibility within the vicinity of this proposed modification to the OHL route. In comparison to the route set out in the ES, visibility south-east and north-west of the OHL route is reduced slightly based on the maximum 5km extent of theoretical visibility as a result of screening provided by the topography of Hill Rigg to the west of the proposed modifications to the OHL.

4.8 Informed by the ZTV and fieldwork, the proposed modifications to the OHL in this location will potentially affect the following receptors:

- Road routes, including the A721, A706;
- Public Right of Way (PRoW) SL26.

4.9 Impacts on visual amenity during construction and operation of this section of the proposed modification to the OHL will not result in a perceptible change from that identified within the ES. No visual change is expected from the identified viewpoints used in the LVIA as a result of the proposed modification to this section of the OHL.

A706

4.10 The proposed modifications to this section of the route alignment may be perceptible from this road, however it is judged this will not alter the low to imperceptible magnitude of change and minor to negligible, therefore not significant, visual impact during construction and operation as identified in **Table 6.15** of the ES.

A721

4.11 The proposed modification to the route alignment in this location may be perceptible from this road route, however it is not judged sufficient enough to alter the low magnitude of change and minor, therefore not significant, visual impact during construction and operation as identified in **Table 6.15** of the ES.

PRoW SL26

4.12 The proposed modification to the OHL route will locate a short section of the OHL slightly closer (approximately 250m) to the route of this public right of way, however the magnitude of visual change will not substantially alter from that identified in **Table 6.15** of the ES. The visual change resulting from the proposed modification to the route alignment will result in receptors on this recreational walking route experiencing a minor to imperceptible magnitude of change during construction and operation. On this basis impacts are considered to be not significant as presented within the ES.

Mitigation

4.13 Measures to reduce landscape and visual impacts were embedded in the route alignment process presented in the ES. No further mitigation measures are proposed.

Residual Visual Impacts

4.14 All residual landscape and visual impacts during construction and operation remain as predicted in the ES, or as outlined in the preceding sections of this Addendum.

Cultural Heritage

Baseline Conditions

4.15 Four cultural heritage sites have been identified within the portion of the Core Study Area containing the proposed modification at Hill Rigg. A gazetteer of cultural heritage assets located within this area, detailing the current baseline condition and an assessment of each asset is provided in **Appendix A10.1.** The locations of the features are shown in detail on **Figure A10.2b**.

4.16 The recorded sites are a former sheepfold (22), a former enclosure (23), the ruined remains of Corbinshaw farmstead (24) and the location of the former and current Greenbank Farm (72). All of these are considered to be of low heritage value / sensitivity.

4.17 As determined in the ES (paragraph 10.69), and agreed with West of Scotland Archaeology Service (WoSAS) in their consultation response (received 18th February 2013), this area is considered to have a moderate potential for the discovery of previously unrecorded archaeological remains.

4.18 There is no change to the cultural heritage baseline within the Outer Study Area as presented in the ES within the Hill Rigg proposed modification section.

Construction Impacts

4.19 A potential direct impact upon Site 24, Corbinshaw farmstead which is considered to be of low value, is predicted as a result of the construction of the proposed modification at Hill Rigg, as the site lies in close proximity to proposed wood poles, and directly beneath the course of the proposed OHL.

4.20 Any ground-disturbing construction activities required by the proposed modification could have a direct impact on any hitherto undiscovered, buried archaeological remains present in affected areas. The potential of the area for the discovery of previously unknown, buried archaeological remains is considered to be moderate. Taking into account the limited extent of the proposed ground disturbance resulting from the proposed modification, the likelihood of construction works encountering remains of archaeological significance at any specific pole location is considered to be low. The ground disturbing construction activities are likely to have a potential direct impact of no more than minor significance on buried archaeological remains.

Mitigation

4.21 The overall approach to mitigation as included in the ES (Paragraphs 10.88 – 10.96), including details relating to the production and contents of the Written Scheme of Investigation (WSI), arrangements for

dealing with unforeseen archaeological discoveries, and the provision of written guidelines for all construction contractors, will be applied to the proposed modification to the OHL. The WSI will also include the measures outlined below relating specifically to the proposed modification at Hill Rigg.

4.22 The remains of Corbinshaw farmstead (24) will be fenced off to prevent accidental damage occurring to the remains during construction activities in the vicinity. This will ensure the preservation in situ of the remains of the farmstead.

4.23 An archaeological watching brief will be carried out during ground-breaking construction works within the area of the proposed modification. The scope and strategy for the watching brief will be agreed with WoSAS and set out in the WSI.

4.24 If discoveries are made during archaeological monitoring, and preserving them in situ is not possible, provision will be made for the further investigation and recording of them, where necessary. This provision will include the consequent production of written reports on the findings, with post-excavation analyses and publication of the results of the work, where appropriate.

Residual Impacts

4.25 Following the implementation of the above mitigation measures, there will be no construction impacts upon known cultural heritage features associated with the proposed modification at Hill Rigg.

4.26 There may be residual impacts on previously unrecorded archaeological remains which may be revealed during construction works. In line with the requirements of PAN 2/2011, any archaeological remains that are identified will be either preserved in situ or excavated and recorded to a standard agreed with the Council's archaeological advisors, leading to the accrual of archaeological information and preservation by record. Taking into account the known baseline, the archaeological potential of the area, and the archaeological mitigation set out above, the residual impact on the undiscovered archaeological resource will likely be of low magnitude and minor significance as predicted within the ES

Summary

4.27 The landscape and visual impact assessment (LVIA) of the proposed modification at Hill Rigg found that the landscape impacts on landscape resource (C) Springfield Reservoir to the A721 Road, LCT(5) Plateau Farmland and the Middle Clyde Valley Special Landscape Area (SLA) will remain as not significant during construction and operation, as previously reported in the ES.

4.28 It is predicted that there will be no change in impacts on the viewpoints assessed in the LVIA as a result of the proposed modification to this section of the OHL, or from settlements and routes.

4.29 The cultural heritage assessment for the proposed modification has identified that there would be a change in the baseline situation within the Core Study Area. One of these assets is Site 24 Corbinshaw Farmstead and the assessment has found that there may be a direct impact on the feature during construction of the proposed modification. However, due to the low heritage value / sensitivity of this asset, any impacts on this feature will not be significant.

4.30 The assessment has found that ground disturbing construction activities are likely to have a potential direct impact of no more than minor significance on buried archaeological remains. As discussed in the ES, a WSI will be produced to deal with any undiscovered heritage assets, and this will discuss the scope of the archaeological watching brief. It is proposed that Corbinshaw Farmstead will be fenced off during construction activities to ensure the preservation of any remains. As such, the cultural heritage assessment has found that, following the implementation of the proposed mitigation, there will be no construction impacts on any known features along this section of the OHL.

4.31 The ornithology assessment has found that during operation, the impacts of displacement will remain as reported in the ES. The impacts of collision risk as a result of the proposed modification in the Hill Rigg area also remain unchanged.

4.32 Overall, the predicted impacts of the proposed modification at Hill Rigg on landscape and visual amenity will remain as those predicted in the ES. Where new impacts are predicted for cultural heritage, these will not be significant. Any proposed mitigation, as included in the ES, will remain applicable to the proposed modifications.

5 Updated Assessment of Impacts: Hole Farm

Introduction

5.1 This section presents the results of a review of the likely impacts on the Hole Farm area in the light of proposed modifications to the route of the OHL compared to the route presented in the ES.

Landscape and Visual Amenity

5.2 This section of the Addendum considers the potential change in landscape and visual impacts identified within the ES, as presented with **Chapter 6: Landscape and Visual Amenity** of the ES. An overview of the route presented in the ES and the proposed modifications to the route alignment are shown on **Figure A4.2e**.

5.3 The proposed modification of the OHL alignment at Hole Farm is located within the *(C) Springfield Reservoir to the A721 Road* landscape resource and *(D) A721 Road to West Coast Mainline Railway* landscape resource, shown on **Figure 6.3** of the ES. As a result of the minor proposed modification, the physical changes to the landscape will be the same as those identified for the route presented in the ES. The magnitude of the landscape impact within the *(C) Springfield Reservoir to the A721 Road* landscape resource will not therefore increase or decrease and the impact will remain moderate, therefore significant, during construction and minor, therefore not significant**,** during operation of the proposed grid connection. This is consistent with the impacts previously identified within **Table 6.11** of the ES.

5.4 The proposed modification to the alignment at Hole Farm, is located within the *(4) Rolling Farmland LCT* (area *4d Lanark*). The physical landscape changes to the LCT as a whole which will occur as result of the minor OHL deviations in this location will be the same as those identified within **Table 6.12** of the ES, with an imperceptible magnitude of landscape change resulting in a negligible, therefore not significant, landscape impact during construction and operation of the proposed grid connection.

5.5 It is judged that the proposed modification to this section of the OHL route will not change the nature or significance of impacts on the Middle Clyde Valley Special Landscape Area (SLA) during both construction and operation. The impacts on the SLA will remain as not significant.

Description of ZTV

5.6 The comparative ZTV shown on **Figure A6.6a** indicates limited or no change in the extent of theoretical visibility within the vicinity of this section of the proposed modification to the OHL route. This is due to the minor nature of the deviation in this location, with the revised wood pole positions for the route located on similar topography as the route followed in the ES.

5.7 Informed by the ZTV and fieldwork, impacts on visual amenity as a result of the proposed modifications in this location will potentially affect the receptors in the following locations:

- LVIA assessment viewpoints (Viewpoints 5 and 6);
- The settlement of Kilncadzow;
- Road routes, including the A721 and minor roads;
- Public Right of Way (PRoW) SL26.

5.8 Two assessment viewpoints included within the LVIA presented in the ES have been updated to illustrate the proposed modification at Hole Farm. These viewpoints are described below, with accompanying visualisations shown as **Figures A6.11** and **A6.12**.

Viewpoint 5 - A721 near Muirhead

5.9 For this viewpoint, updates are provided to the wireline and photomontage visualisation presented within the ES (**Figure 6.11**) showing the proposed modification. The updated visualisations from this viewpoint are shown as **Figure A6.11**.

5.10 The proposed modification to the OHL route west, north-west of this viewpoint will lead to perceptible changes in the positioning of wood poles within the low lying shallow valley of Back Burn between Kilncadzow Hill to the west and the hill occupied by Muirhead Farm to the east. The proposed modification will not however introduce a greater number of poles into the view and the grid connection will occupy the same proportion of the available view from this location, backclothed against the topography and pastoral farmland of Hill Rigg and Kilncadzow Hill and partially screened by the linear deciduous shelterbelt of trees which lies to the north of the A721.

5.11 Therefore, during construction and operation, receptors will experience the same low magnitude of change and minor, therefore not significant, visual impact as identified in the ES.

Viewpoint 6 - Minor road near Collielaw Cottage

5.12 For this viewpoint, updates are provided to the wireline and photomontage visualisation found within the ES (**Figure 6.12**) showing the amended OHL route alignment. The updated visualisations from this viewpoint are shown in **Figure A6.12**.

5.13 The proposed modification to this short section of the proposed OHL route will be visible from the viewpoint as the OHL crosses the minor road to the south-east of the properties of Hole Farm and Cairn View. The proposed modification places poles closer to the minor burn which runs south-west towards Fullwood Burn and will reduce the likelihood of the OHL breaking the skyline in views from this viewpoint, with the OHL backclothed against the backdrop of enclosed pastoral farmland and the agricultural buildings of Hole Farm. Due to the more direct alignment of this section of the OHL route, the H-pole visible in the original visualisations (ES **Figure 6.12.2**) will no longer be required and this will be replaced by a single pole.

5.14 During construction, the magnitude of visual change will remain medium and result in moderate, therefore significant, visual impacts as identified within the original LVIA. The operational impacts will also remain the same as the original LVIA, resulting from a low magnitude of change and minor, therefore not significant visual impact.

A721

5.15 The proposed modification to this section of the OHL route will be largely imperceptible by receptors travelling along this route and will not alter the low magnitude of change and minor, therefore not significant, visual impact during construction and operation as identified in **Table 6.15** of the ES.

PRoW SL26

5.16 The proposed modification to the OHL route will locate a short section of the OHL slightly closer (< 150m) to the route of this PRoW, which will be perceptible to receptors. The magnitude of visual change will however not substantially alter from that identified in **Table 6.15** of the ES. The visual change resulting from the OHL deviations will result in receptors on this recreational walking route experiencing a minor to imperceptible magnitude of change during construction and operation, leading to a minor to negligible, therefore not significant, visual impact.

Mitigation

5.17 Measures to reduce landscape and visual impacts were embedded in the route alignment process presented in the ES. No further mitigation measures are proposed.

Residual Visual Impacts

5.18 All residual landscape and visual impacts during construction and operation are therefore as predicted in the ES, or as outlined in the preceding sections of the Addendum.

The Water Environment

Construction Impacts

5.19 The predicted impacts during construction of the proposed modification at Hole Farm are similar to those in the ES. For this section of the OHL, the predicted impacts on surface water hydrology, flood risk, water quality and water resources were all assessed to be of negligible significance in the ES prior to mitigation. The proposed modification is closer to the Fullwood Burn tributary 1 (C16A) and hence there is the potential for an impact to the watercourse. However, there is a well vegetated buffer strip (at

least 10m wide) between the channel and agricultural land and provided that the poles are micro-sited away from the watercourse and that no machinery is operated close to or within the watercourse (within 10m), it is considered that the impacts on surface water hydrology, flood risk, water quality and water resources will remain of negligible significance.

Mitigation

5.20 Mitigation measures presented in the ES remain the same; no further mitigation is required.

Residual Impacts

5.21 The residual impacts on surface water hydrology, flood risk, water quality and water resources are considered to be of negligible significance.

Ornithology

Operational Impacts

5.22 The operational phase of the proposed grid connection may potentially impact on birds through displacement from key sites resulting from the presence of the OHL and associated maintenance activities throughout its lifetime, and through collision with the wires of the OHL.

5.23 In comparison to the route proposed in the ES, the proposed modification in the Hole Farm does not alter the likelihood of breeding or non-breeding birds being displaced. In comparison to the route presented in the ES, the proposed modification does result in changes to the number of transits across the OHL for three species of high or moderate Nature Conservation Importance.

5.24 For pink-footed geese, one flight of 120 birds now transits the route of the OHL. For peregrine, three flights by single birds no longer transit the OHL. For goshawk, two flights by single birds no longer transit the OHL.

5.25 In relation to displacement of birds as a result of disturbance, the impacts on all species of high and moderate Nature Conservation Importance arising from the operation of the proposed grid connection, taking account of the proposed modifications in the Hole Farm area, are unchanged from that reported in the ES.

5.26 In relation to collision risk during the operational phase of the proposed grid connection, an increase in the number of transits by pink-footed geese, results in a higher overall transit rate for this species and hence a higher collision estimate compared to that predicted for the route presented in the ES in the Hole Farm area. However, this does not alter the overall conclusions of the original assessment and, taken together with the downward revision to collision estimates arising from the proposed modifications in the Hill Rigg area, the net outcome of the proposed modifications is that collision predictions for pink-footed geese are lower across the whole OHL. Nevertheless, this marginally higher collision estimate in the Hole Farm area considered in isolation would not alter the overall conclusions of the original assessment.

5.27 For goshawk and peregrine, a lower overall transit rate across the OHL results in a lower collision estimate compared to that predicted for the route presented in the ES in the Hole Farm area. Hence, for these species, mortality estimates arising from collisions in the Hole Farm area are lower following the proposed modification.

5.28 For all other species, the operational impacts in relation to collision risk in the Hole Farm area are unchanged from that reported in the ES.

Summary

5.29 The LVIA assessment of the proposed modification at Hole Farm has found that the landscape impacts on landscape resource (C) Springfield Reservoir to the A721, will remain as moderate, therefore significant during construction and minor, therefore not significant during operation as reported in the ES. The predicted impacts of the proposed modification on LCT (4) Rolling Farmland LCT (area 4d Lanark) and on the Middle Clyde Valley Special Landscape Area (SLA) will remain as reported in the ES i.e. not significant.

5.30 In terms of visual impact, the assessment has found that the construction and operational impact of the proposed modification on Viewpoint 5 will remain as reported in the ES i.e. not significant. The impact on Viewpoint 6 during construction and operation will also remain unchanged; significant during construction and not significant during operation. In addition, it is predicted that visual impacts of the OHL deviation on the A721 and PRoW SL26 will remain as not significant as presented in the ES.

5.31 With regards to the potential impacts on the water environment, the assessment has found that the proposed modification of the OHL route will still result in residual negligible i.e. not significant impacts on surface water hydrology, flood risk, water quality and water resources as presented in the ES.

5.32 The ornithology assessment has found that during operation, the impacts of displacement will remain as reported in the ES. The impacts of collision risk as a result of the proposed modification in the Hole Farm area also remain unchanged.

6 Updated Assessment of Impacts: OHL at Fullwood and Underground Cable to Linnmill Substation

Introduction

6.1 This chapter presents the results of an assessment of the likely environmental impacts associated with the proposed modifications between Fullwood and the underground cable to Linnmill substation compared to the route presented in the ES.

Landscape and Visual Amenity

6.2 The landscape and visual impacts which are considered likely as a result of the proposed modifications to the OHL at Fullwood and the underground cable to Linnmill substation are described below. This section should be read in conjunction with **Chapter 6: Landscape and Visual Amenity of the ES**.

OHL Route

6.3 The proposed modification to this section of the OHL route alignment, is located within the *(5) Plateau Farmland* LCT (area *5a Central Plateau*). The proposed modifications will not change the nature or significance of impacts on the LCT as a whole from those identified in **Table 6.12** of the ES. The impacts will remain as not significant.

6.4 The proposed modification to the OHL route at Fullwood is located within the (D) A721 Road to West Coast Mainline Railway landscape resource and the (E) West Coast Mainline Railway to the A73 Road landscape resource area (shown on **Figure 6.3** of the ES), the proposed modifications to the OHL route will result in a reduction in the number of poles located within these landscape resource areas. The proposed modified OHL route will run within the southern edge of the commercial forestry north of Fullwood rather than within the adjacent field. This will require the felling of a 25m wayleave along this woodland edge. However the proposed modified route will avoid cutting through a stand of coniferous forestry at the south eastern corner of the Cartland Muir Plantation as presented in the ES.

6.5 The underlying landscape of the proposed modification to the underground cable route between the terminal pole location near Fullwood and the A73 near Cartland Crags is considered to be of the same character of that of the (E) West Coast Mainline Railway to the A73 Road landscape resource area identified in the original LVIA. The modifications to the underground cable route south of the River Clyde are located within the (F) A73 Road to Linnmill Substation Extension landscape resource. The proposed modification to the OHL route is judged to result in no change in the overall landscape impacts during construction or operation identified in the ES (**Table 6.11**).

6.6 The original LVIA identified minor, and therefore not significant impacts on the Middle Clyde Valley Special Landscape Area (SLA) during construction of the proposed grid connection. It is judged that the construction of this section of the proposed grid connection will result in the same overall level of impact on the landscape of the SLA. Once operational, it is judged that the modified OHL route will result in no change in the nature or significance of the landscape impacts presented in **Table 6.13** of the ES.

Underground Cable Route

6.7 The proposed modification to the underground cable route will not result in a change in the nature or significance of impacts on both the *(5) Plateau Farmland* (LCT) (area *5a Central Plateau*) and (*8) Incised River Valleys* LCT *(area 8h Mouse Water)* during construction of the underground cable route.

6.8 Once operational, the proposed modification to the underground cable route will result in no discernible landscape impacts on these LCTs, as the operational underground cable will not be evident within the landscape, reduced from those associated with the route presented in the ES, as identified within **Table 6.12** of the ES.

6.9 Landscape impacts on the *(E) West Coast Mainline Railway to the A73 Road* landscape resource during construction are judged to be reduced from those associated with the OHL route located within this landscape resource, as previously identified in the ES. The proposed modified underground cable route will avoid the loss of deciduous broadleaf trees to the west of Cartland. Construction impacts are judged to be minor, therefore not significant, arising from a short-term minor magnitude of landscape change. The proposed modified route mainly follows the existing public roads and a private farm track. Operational impacts are judged to be in accordance with those identified within **Table 6.11** of the ES.

6.10 Once operational, the underground cable route located within the *(E) West Coast Mainline Railway to the A73 Road* landscape resource will result in no discernable landscape impacts on the landscape resource area, as any disturbance associated with construction will be reinstated and the underground cable will not be evident within the landscape. The landscape impact of the proposed modification to the underground cable route will therefore be negligible, and not significant, arising from an imperceptible magnitude of landscape change. This represents a reduction in the low magnitude of landscape change and minor landscape impact in relation to the presence of the OHL route, as identified in **Table 6.11** of the ES.

6.11 The proposed modifications to the underground cable route are also located within the *(F) A73 Road to Linnmill Substation Extension* landscape resource area as shown on **Figure 6.3** of the ES; however it is judged that the changes will not result in a change in the nature or significance of impacts on this landscape resource area to those identified within the ES.

6.12 It is judged that the construction of the modified underground cable route will result in the same overall level of impact on the landscape of the Middle Clyde Valley SLA. Once operational, it is judged that the modified underground cable route will result in no change in the nature or significance of the landscape impacts presented in **Table 6.13** of the ES.

Description of ZTV

6.13 The ZTV shown on **Figure A6.6a** indicates a change in the extent of theoretical visibility within the vicinity of the southern extent of the grid connection route. The proposed modification to the OHL route between Fullwood and the West Coast Mainline Railway and the realignment and undergrounding of the route between Moor Road, near Fullwood and Cartland Crags will reduce visibility substantially during operation of the proposal.

6.14 The ZTV indicates that theoretical visibility will be reduced across the upper slopes of the Clyde Valley north of Cartland Mains. The proposed modification will reduce visibility to the west and north-west of Fullwood, and there will be no visibility from much of the settlement of Cartland.

6.15 A change in predicted impacts on visual amenity as a result of the proposed modifications to the OHL and underground cable in this location will potentially affect receptors in the following locations:

- LVIA assessment viewpoints (Viewpoints 8 and 9) and additional assessment viewpoint 10;
- The settlement of Cartland;
- Road routes, including the A73 and minor roads;
- The West Coast Mainline Railway.

Viewpoint 8 - Craigenhill Road, north of Railway Line and Viewpoint 9 – Cartland, South of Greentowers Farm

6.16 The proposed modifications will result in no visibility of the OHL route, terminal pole or underground cable route from these viewpoints. The visual impacts identified within the ES (**Figure 6.14** and **6.15**) from these viewpoints are therefore superseded by this Addendum.

6.17 To illustrate the potential visual impacts associated with the most southerly extent of the proposed OHL and terminal pole location and underground cable route, south of the West Coast Mainline Railway, near Fullwood, an additional viewpoint is described below and shown on **Figure A6.18**. The assessment is presented in the same format as for the other viewpoints included within the ES for consistency.

Viewpoint 10 - Moor Road, near Fullwood

Viewpoint 10 – Moor Road, near Fullwood			
Grid Reference	NS 88152 46679	**Figure Number**	**Figure A6.18**
LCT	*Plateau Farmland LCT*	**Designated Landscape**	Middle Clyde Valley SLA
Views towards Grid Connection	Anti-clockwise, north to south-west	**Approx. Distance to Proposed Grid Connection**	<50m
Viewpoint Sensitivity: The sensitivity of this viewpoint is considered to be **low**.			
Existing View: The viewpoint is located next to a minor road, which crosses the West Coast Mainline Railway to the north via a bridge to the east of the viewpoint. Panoramic views clockwise from east to south-west are available from this viewpoint, with long distance views towards the Clyde Valley and Tinto Hills to the south, with the northern edge of Lanark visible below the distinguishable hills on the skyline. Post and wire enclosed arable and pasture fields form the foreground and middle ground of views to the west, south and east, with occasional farmstead and agricultural buildings, scattered shelterbelts of deciduous trees and small stands of coniferous forestry visible across the middle distance. To the north, blocks of coniferous forestry form the skyline beyond the deep cutting which hides the railway line below, with visibility limited to the railway overhead transmission lines which follow the railway west-east. A 33kV OHL runs north-south to the east of the viewpoint crossing the railway line to the east of the bridge and steel tower transmission lines are visible to the west on the horizon. The turbines of Black Law and Hagshaw Hill Windfarms are not visible, and the turbines of Black Law Windfarm Extension will not be visible from this viewpoint once constructed.			
Assessment of Visual Impacts – Construction: Construction activity will be visible from this viewpoint, with a temporary working area and pulling area located directly west of the viewpoint adjacent to the terminal pole location. Partially constructed infrastructure, construction vehicles and machinery will be visible to the north of the railway line and west where the OHL will cross Moor Road. Visibility of construction activities along the underground cable route will be possible to the west, south-west of this viewpoint as excavation of the cable trench and creation of access tracks is undertaken. With distance these construction activities will become less discernible, with the southern extent of the underground cable route not visible from this viewpoint. Viewers will experience a medium magnitude of visual change from this viewpoint during construction, resulting in short-term impacts of moderate significance.			
Assessment of Visual Impacts - Operation: Once operational the terminal pole will be visible in the foreground of views south-westwards from this viewpoint, appearing to the south of Moor Road. The OHL will span north-eastwards across the railway line, backclothed against the pasture farmland and coniferous forestry to the north. To the north, the OHL will be screened by intervening vegetation and will be largely imperceptible from the viewpoint. Following reinstatement, the underground cable route will be imperceptible in views from this location. The proposal will therefore occupy only a small proportion of the available view from this viewpoint, with the terminal pole appearing alongside the existing OHL infrastructure along the railway line and will form a relatively minor element in the landscape from this location. Viewers will experience a low magnitude of change from this viewpoint, resulting in long-term impacts of minor significance.			

Visual Impacts from Settlements

Cartland

6.18 The proposed modifications to the southern extent of the OHL route and underground cable will result in no visibility of the OHL route, terminal pole or underground cable route from this settlement. The visual impacts identified within the ES (**Figure 6.15**) from this viewpoint are therefore superseded by this Addendum.

Visual Impacts from Routes

A73

6.19 The proposed modifications will be largely imperceptible by receptors travelling along this route and are not judged to alter the low to imperceptible magnitude of change and minor to negligible, therefore not significant, visual impact during construction and operation as identified in **Table 6.15** of the ES.

Minor Roads

6.20 The proposed modifications to the OHL route will be largely imperceptible by receptors travelling along this route and are not judged to alter the low to imperceptible magnitude of change and negligible, therefore not significant, visual impact during construction and operation as identified in **Table 6.15** of the ES.

West Coast Mainline Railway

6.21 The proposed modifications to the OHL route will be largely imperceptible by receptors travelling along this route and are not judged to alter the low to imperceptible magnitude of change and minor to negligible, therefore not significant, visual impact during construction and operation as identified in **Table 6.15** of the ES.

Mitigation

6.22 Measures to reduce landscape and visual impacts were embedded in the route alignment process presented in the ES. No further mitigation measures are proposed.

Residual Visual Impacts

6.23 All residual landscape and visual impacts during construction and operation are therefore as predicted in the ES, or as outlined in the preceding sections of this Addendum.

The Water Environment

Surface Water Hydrology

Stream Crossings and Watercourses

6.24 The proposed modification to the OHL deviates from its original line close to Fullwood Farm to turn south west across the railway to a location just south of the railway, where it terminates to become an underground cable. As a result of this change, watercourse crossings numbered C19 to C27 in the ES are no longer affected by the revised route. This means that the catchment of the Brocklinn Burn (C20-C24) and the unnamed watercourses which pass under the A73 road (C25-C27) are no longer affected by the development.

6.25 The proposed modification to the underground cable route now follows a minor road southwards before following a farm track, crossing fields and then joining the A73, close to Cartland Bridge. There are four minor watercourses that will be crossed by the underground cable route (crossings C19A to C22A, Table 3). All cable crossings are at existing crossing locations where the watercourses flow under the minor road via piped culverts or cundies. Three of the watercourses are the upstream sections of small channels, with catchment areas less than 0.07km^2 at the crossing location (C20A-C22A). Crossing C19A has a larger upstream catchment area of 0.68km^2. Two of the affected watercourses also parallel the minor road for short sections (C19A - Fullwood Burn tributary 3 and C21A - Un-named tributary 1 of Mouse Water). Additional baseline information for the potentially affected watercourses is summarised below:

- The underground cable crosses the Fullwood Burn tributary 3 watercourse at the existing 400mm road culvert crossing and the tributary then flows south alongside the cable/minor road for some 90m before turning to flow east. The watercourse is approximately 0.6m wide, with a bank height of 0.3m and water depth of around 0.2m. Further downstream, the banks are heavily vegetated and the bank increases in height to around 0.7m. The OHL route presented within the ES crossed this watercourse slightly further upstream (crossing C19 in ES).

- Further south, the underground cable route crosses the upstream reach of another small tributary of the Fullwood Burn (Fullwood Burn tributary 4, crossing C20A). There is an existing watercourse crossing here, as the minor road crosses the watercourse, however there was no evidence of an existing circular pipe culvert and it appears that the road had been constructed over the watercourse leaving an approximate 1m diameter gap for the watercourse to flow under. The watercourse was not visible upstream of the road and it is not shown on OS 1:10,000 maps to the west of the road. Very little flow was observed coming out under the road and there is a wide section of channel with moss-covered bricks and very little flow (Plate 4). There is evidence of bank erosion/poaching by cattle downstream of the crossing. Further downstream, the channel is around 0.5m wide and has heavily vegetated banks of around 0.3m in height.
- Further south, an upstream reach of a small drain flows southwards adjacent to the west side of the road for some 75m before it flows under the road through an existing 500mm culvert. The watercourse is approximately 0.7m wide with banks of around 0.5m. Slopes here are very steep down to the Mouse Water and the watercourse flows steeply down to the Mouse Water in a V-shaped channel (Plate 5). There was evidence of poaching by cattle downstream of the road crossing, resulting in erosion. It is understood the revised cable route will cross this watercourse at the existing road crossing (crossing C21A).
- Just south of the junction of Mousebank Road and Greentowers Road, the road (and hence revised cable route) crosses another steep watercourse (Crossing C22A), which flows through a 500mm culvert under the road (Plates 6 and 7). The watercourse is around 0.5m wide downstream of the culvert and is densely vegetated. It is tributary of the Mouse Water and it flows steeply down towards the Mouse, parallel to Mousebank Road. The downstream reach of the watercourse is adjacent to the Cartland Craigs SSSI, designated for biological woodland interests. The watercourse/culvert inlet was not visible upstream of the road, and the slopes here are very steep. There was evidence of water flowing over the road during periods of high rainfall.

Table 3 Watercourse Crossings of Revised Fullwood to Cartland Crags Proposed Modification

No.	Name	NGR	Approx. Upstream catchment area (km^2)	Channel width (m)	Comment and justification for crossing	Proposed crossing type	Photograph
C19A	Fullwood Burn tributary 3	287841 646693	0.68	0.7	Existing culvert crossing. The underground cable parallels the minor road.	Underground Cable	**Plate 3**
C20A	Fullwood Burn tributary 4	287787 646320	0.07	0.5	Existing 'cundy' drain crossing. The underground cable parallels the minor road.	Underground Cable	**Plate 4**
C21A	Un-named tributary 1 of Mouse Water	287698 645603	0.06	0.7	Existing culvert crossing. The underground cable parallels the minor road.	Underground Cable	**Plate 5**
C22A	Un-named tributary 2 of Mouse Water	287631 645565	0.05	0.5	Existing culvert crossing. The underground cable parallels the minor road.	Underground Cable	**Plate 6** **Plate 7**

Hydrology of Hillslope Sections

6.26 Remote from stream crossings, the proposed modification to the underground cable will cross surface and shallow surface runoff flow pathways on hillslopes along the cable route. The slopes in the southern section from the property of Glencotho to Hawthorn Cottage are fairly steep, as they slope down the valley side towards the woodlands of Cartland Crags and the Mouse Water. There are no open watercourses along this section of the route. The main land-use on these slopes is agricultural and surface/sub-surface run-off will be towards the Mouse Water.

Flood Risk

6.27 SEPA Third Generation flood maps show no locations of flood risk along the proposed modification to the cable route.

Private Water Supply (PWS)

6.28 As shown on **Figure 7.4c** of the ES, Lockhart Mill was noted as potentially having a PWS, as it was not shown to be connected to the Scottish Water Infrastructure. As this property is located downslope of the proposed modification to the underground cable route, SLC were contacted again regarding details of this potential PWS.

6.29 However, SLC only have a partial record of PWS and confirmed that none of the properties in proximity to the underground cable route, including Lockhart Mill were on their records. This does not mean that they are not on a private supply; it may be that they are not known to the Council in this capacity. It will be necessary to verify the status of Lockhart Mill's water supply should be confirmed prior to construction of the cable route.

Predicted Impacts

6.30 At the watercourse crossing locations (C19A – C22A) the underground cable will be buried in an open-cut trench along in the road. Given that the existing road culverts are fairly shallow under the road, it is likely that the cable will be below the culverts and the culverts would have to be replaced following construction of the cable. In addition, there are two watercourse sections which flow alongside the road (and proposed cable route) for approximately 90 and 75m, respectively. During construction of the trench there is the possibility of release of sediment / silt to the watercourses, temporary blockage of flow paths and blockage of channels and the risk of spills / pollution from machinery and equipment. As presented in the ES, accepted mitigation measures will be employed to minimise these impacts. Therefore, whilst impacts are theoretically possible, the significance of impact, with mitigation, is considered to be negligible.

6.31 A section of the underground cable passes upslope of the property of Lockhart Mill and Mousebank Road. It is possible given the steepness of this hillslope section and the two watercourses which the cable route crosses (C21A and C22A) that any change in drainage patterns or flow rates on the hillslope, could increase the flood risk to Lockhart Mill and / or Mousebank Road to the south. Maintaining continuity of flows across the minor road at crossing locations C19A-C22A was considered within the assessment. Overall the magnitude and significance of this impact is likely to be negligible.

6.32 During construction of the trench, there is the potential for runoff upslope of the trench to be diverted from its natural flowpath toward Lockhart Mill. The impacts are likely to be negligible as there is limited catchment area upslope of the trench and a substantial distance between the trench and the property,

hence although there is a possibility of an increase in flooding, impacts are considered to be unlikely and of negligible magnitude.

6.33 During construction of the trench for the underground cable under the minor road, there is the potential for sediment and debris from the construction works to cause blockage of drainage culverts under the road or the diversion of natural flow pathways away from the culverts. If the culverts were blocked or flows were unable to reach the culverts there is a risk that flood waters could flow onto the road. Given small catchment areas upstream of the road, it is unlikely that flooding would reach a depth sufficient to cause a blockage to traffic, however any flood waters on the road could be a hazard to drivers. This scenario is considered unlikely as heavy rainfall would need to occur during construction of this section of the route. In addition, as the cable trench will be under the road, the construction phase is not likely to generate significant amounts of sediment and debris. Overall, the impacts are considered to be negligible.

6.34 During construction of the trench, there is the potential for runoff upslope of the trench to be diverted from its natural flowpath to flow along the trench. This is potentially an issue in the southern section of the underground cable route where the cable flows across the relatively steep valley side from Newsteadings Farm to Hawthorn Cottage. Impacts are predicted to be minor and mitigation measures to ensure that the underground trench allows through-flow of shallow sub-surface water will be put in place.

6.35 During construction, there is the possibility of pollution of the watercourses (e.g. increased sedimentation or risk of accidental fuel spills) crossed by the cable route. Lockhart Mill was identified as a potential PWS and is located downslope of the revised cable route. If it is confirmed that this is a PWS, and the source of the supply is from the surface watercourse that flows past the property (i.e. Unnamed tributary 2 of the Mouse Water) it is possible that the supply could be contaminated during the construction of the trench and installation of the cable, although impacts are thought to be negligible . However, mitigation measures, monitoring and consultation with the PWS owner will be undertaken in advance of any construction work.

Mitigation

6.36 Mitigation measures as set out in the ES remain applicable to the proposed modifications.

6.37 In addition, further mitigation will be introduced to minimise the risk of contaminating the supply of the potential PWS at Lockhart Mill, if it is confirmed that this is a PWS. This would include standard sediment and pollution control measures (i.e. SuDS); monitoring of the source before and during construction and communication with the users of the PWS during the construction period In addition a CEMP would be prepared in line with SEPA's consultation response to the Application.

6.38 The trench for the underground cable will be constructed to ensure that it is pervious to through flow of sub-surface water, so that it does not act as a conduit for sub-surface flow paths. This is of particular importance on the steep hillslope section south of Newsteadings Farm.

Residual Impacts

6.39 With mitigation measures in place, the residual impacts on surface water hydrology, flood risk, water quality and water resources are considered to be of negligible significance and therefore the same as presented within the ES.

Ecology

Predicted Impacts

6.40 Chapter 8 of the ES concluded that construction impacts upon the following features may be significant:

- Habitats.
- Protected Species (Mammals).

6.41 Impacts on other ecological features were considered to be not significant. Following standard mitigation measures, impacts on habitats and mammals would also be not significant.

6.42 A reduced area of natural or semi-natural habitat will be affected by the proposed modifications as it will primarily follow an existing series of roads and farm tracks. As a consequence, the overall area of woodland and grassland lost will be reduced. The ES found that subject to simple mitigation, impacts on habitats will not be significant and it is concluded that this assessment remains valid for the proposed modification.

6.43 With regard to protected species, walkover surveys identified no further evidence of target species identified in the ES and found an overall reduction in badger activity. As such, it is considered that the findings of the ES remain relevant and that, subject to basic mitigation, impacts on these species will not be significant.

Mitigation

6.44 Mitigation proposed in the ES remains relevant, however the need for greater vigilance of new and emerging badger setts as a consequence of recent disturbance is paramount. This is particularly important in sections of undergrounding where excavation could directly impact badger setts. The ES's recommendation for an Ecological Clerk of Works will ensure badgers are not affected by the works through the preparation of a Badger Protection Plan as highlighted in Table 2.

Residual Impacts

6.45 There will be no significant residual impacts on either habitats or protected species (mammals) associated with the proposed modifications, subject to the mitigation measures set out in the ES.

Cultural Heritage

Baseline Conditions

6.46 Sixteen cultural heritage sites have been identified within the Core Study Area containing the Fullwood to Cartland Crags proposed modifications. A gazetteer of cultural heritage assets located within this area, detailing the current baseline condition and an assessment of each asset is provided in Appendix A10.3. The locations of the features are shown on **Figure A10.2c**.

6.47 The recorded sites are Lee Castle Garden and Designed Landscape (47), The Lee, South Lodge (48), and Castle Qua, a Scheduled Monument (79) which are considered to be of high heritage value / sensitivity; Cartland Bridge, a Category B Listed Building (50) which is considered to be of medium heritage value / sensitivity; Fullwood farmstead (31), Craigenhill, cottage (32), Craigenhill Limeworks (33), buildings and trackway at Tintochland (46), Wallaces Cave (49), Cartland Bridge turnpike (51), a lodge building (52), Castlehill farmstead (76), the former Gill farmstead (77), and Newsteadings farmstead (78) which are considered to be of low heritage value / sensitivity; and Tintochland quarry and trackway (45), and a findspot of flint arrowheads and Roman coins (75) which are considered to be of negligible sensitivity.

6.48 The underground cable section mostly follows existing roads and trackways, the construction of which is likely to have caused disturbance to any underlying archaeological deposits which may have been present. As such, this area is considered to have a low potential for the discovery of previously unrecorded archaeological remains. The section of the Fullwood to Cartland Crags route amendment to the north of the railway line is considered, as determined in the ES (paragraph 10.69), and agreed by WoSAS in their response the ES (received 18th February 2013), to have a moderate potential for the discovery of previously unrecorded archaeological remains.

6.49 The Outer Study Area has been reduced due to the increased length of the proposed grid connection which will be underground cable. The underground cable part of the grid connection will have no operational impacts on the setting of cultural heritage assets. The number of receptors within the Outer Study Area has been reduced from nine to five. A gazetteer of heritage receptors within the Outer Study Area and with predicted visibility of one or more element of the proposed grid connection is presented as Appendix A10.4. An assessment of the operational impact on these receptors is also presented in this appendix. The locations of the receptors and the zone of theoretical visibility (ZTV) are shown on **Figures A10.2c** and **A10.3** respectively.

Construction Impacts

6.50 The proposed modification to the underground cable follows the same course as trackway (45) to the south-west of Newsteadings Farm (78), and a direct impact on the trackway is therefore predicted. The impact will be of medium magnitude, causing a negligible impact prior to mitigation.

6.51 There are no new receptors within the Outer Study Area with predicted visibility of one or more component of the proposed grid connection. The assessment (see Appendix A10.4) identified no significant impacts upon the setting of these receptors. One minor adverse, but not significant, impact is predicted resulting from the construction of the proposed modification to the OHL on Jerviswood (Category A Listed Building).

6.52 Any ground-disturbing construction activities required by the proposed grid connection could have a direct impact on any hitherto undiscovered, buried archaeological remains present in affected areas. The potential of the area for the discovery of previously unknown, buried archaeological remains is considered to be moderate along the section of proposed OHL to the north of the railway, and low for the underground cable element of the proposed grid connection which follows modern road and tracks. Taking into account the limited extent of the proposed ground disturbance resulting from the proposed modifications to the grid connection, the likelihood of construction works encountering remains of archaeological significance is considered to be low. The ground disturbing construction activities will likely have a potential direct impact of no more than minor significance on buried archaeological remains.

Operational Impacts

6.53 The Outer Study Area has been reduced in size due to the increased length of the proposed grid connection which will be underground cable. The operation of the underground cable part of the grid connection will have no impact on the setting of cultural heritage assets.

6.54 Jerviswood (Category A Listed Building, Index No. 13053) is considered to be of high cultural heritage sensitivity. It is a late 16th or early 17th century Laird's house. The house has since been extended and a number of more recent buildings lie in the immediate vicinity, detracting from its original setting. The ZTV predicts that seven wooden poles over the whole course of the revised grid connection route will theoretically be visible from Jerviswood. The building is surrounded by mature woodland on its northern and eastern sides and these trees will help to screen views of the proposed OHL. It is therefore considered that the OHL element of the proposed modification will have an operational impact of low magnitude and minor significance upon the setting of Jerviswood.

6.55 Negligible adverse, but not significant, impacts are predicted from the presence of the OHL element of the proposed modifications for four sites, Castle Qua fort 345m WSE of Mouse Bridge (Scheduled Monument Index No. 2604), Collielaw Wood, Roman road SSE of Collielaw (Scheduled Monument Index No. 11528), Auchterhead Muir, Covenanters Monument (Listed Building Index No. 671) and Lee Castle Inventory GDL as a result of the construction of the whole revised grid connection route

Mitigation

6.56 The overall approach to mitigation as presentedin the ES (Paragraphs 10.88 – 10.96), including details relating to the production and contents of the WSI, arrangements for dealing with unforeseen archaeological discoveries, and the provision of written guidelines for all construction contractors, will be applied to the proposed modifications. The WSI will also include the following measures relating specifically to the Fullwood to Cartland Crags proposed modification.

6.57 An archaeological watching brief will be carried out for the portion of the route to the north of the railway, which is considered to have moderate potential for the discovery of previously unrecorded archaeological remains. The scope and strategy for the watching brief will be agreed with WoSAS and set out in a WSI.

6.58 No mitigation is proposed for the likely direct impact upon trackway (45), as the site is of negligible heritage value / sensitivity, and the predicted impact on it will be of negligible significance.

6.59 No mitigation measures are proposed in relation to the operational impacts.

Residual Impacts

6.60 Following the implementation of the above mitigation measures, there will be no significant construction impacts on known cultural heritage assets as a result of the proposed modifications within the Fullwood to Cartland Crags section of the proposed grid connection.

6.61 A residual impact of negligible significance is predicted on trackway (45).

6.62 There may be residual impacts on previously unrecorded archaeological remains which may be revealed during construction works. In line with the requirements of PAN 2/2011, any archaeological remains that are identified will be either preserved in situ or excavated and recorded to a standard agreed with the Council's archaeological advisors, leading to the accrual of archaeological information and preservation by record. Taking into account the known baseline, the archaeological potential of the area, and the archaeological mitigation set out above, the residual impact on the undiscovered archaeological resource will likely be of low magnitude and minor significance.

6.63 No mitigation is proposed, and therefore the predicted residual impacts remain as predicted above. Of the five receptors within 2km of the proposed modification to the OHL which have theoretical views of one or more element of the proposed grid connection, minor adverse (not significant) impacts have been predicted for one receptor, and negligible adverse (not significant) impacts have been predicted for four receptors.

6.64 The proposed modifications to the grid connection will have no significant adverse operational impacts on cultural heritage assets.

Noise

6.65 Where the cable will be below ground, in addition to the 29 properties identified within the ES which lie within the distance for a significant impact i.e. within 60m of the works, the proposed modifications will result in three additional properties being located in proximity to the underground cable route. These are:

- New Steadings Farms;
- Venlaw, Greentowers Road;
- Glencotha, Greentowers Road.

6.66 However, as per the findings of the ES, the period during which the noise level will not exceed the potential significance is expected to be considerably less than one month. This is based on a rate of progress of approximately 30m a day for the underground cabling works (from the construction programme detailed in Chapter 4). BS5228-1: 2009 notes that a minimum period of a month can be used as a criterion for assessing duration of exposure in relation to the significance of construction noise. Given the short duration of these works as they pass the receptors, it is assessed that a significant noise impact will not occur. The findings of the construction noise assessment therefore remain as presented within the ES.

Land Use

Minerals Extraction

6.67 The ES identified a number of disused mine shafts and drift mines which were sunk from the surface and formerly used to access the deep mining operations in the area to the west of Fullwood, north of the railway, as shown as mine mouths and mine shafts on **Figure A13.2**. The proposed modification now avoids these areas.

6.68 As outlined within the ES, three small areas of potential for sand and gravel extraction have been identified within the proposed modifications at Fullwood to Linnmill substation. The underground cable route presented within the ES was located within two of these areas and the proposed modification to the underground cable route is now located in the third area. The planning authorities, covering the areas of potential interest, in addition to the Coal Authority Licensing Department, confirmed at the time of preparation of the ES, that they were not in receipt of any planning or licence applications or EIA Scoping requests for any of these sites.

Forestry

Baseline Conditions

6.69 The findings of the site visit confirmed that the north side of the River Clyde is a native "Lowland Mixed Deciduous Woodland" as described in the Native Woodland Survey of Scotland (NWSS). The proposed cable modification passes through it in the shortest possible route for approximately 20m.

6.70 It is a steep rocky hill with ash, willow (top storey), hazel, hawthorn (second storey) and should need no more than 10 top storey trees cleared to define a 5m wide track for a digger to construct the

underground cable. There is no requirement to fell the old, ancient oaks that are the greatest value of the woodland. Once the cable is buried, if no new planting was to happen, the cleared area would quickly become self-regenerated.

6.71 The Southern section of the Clyde River is defined as "Wet Woodland" in the NWSS. As it is clear that the area consists of Willow trees mainly, the woodland seems to show ecological succession stages after post human land usage rather than the main soil types being of "mires and bogs, along streams and hill side flushes, and in peaty hallows". Non-native tree species can be found (Douglas Fir, Sitka Spruce, Sycamore, Beech) amongst open growing willow trees, surrounded by pioneer plants (mainly willow herb).

6.72 The proposed modification passes through most dense parts of this woodland. Around 40-60 trees may need to be felled to allow a small size digger to dig a trench. The least impact route will follow the existing footpath (Up to 10 trees may need to come down). Neither of the areas is defined as an Ancient Woodland.

Predicted Impacts

6.73 The proposed modification to the OHL separates from the route assessed within the ES at section L, as shown on **Figure A13.3**. It then avoids the woodland sections, N, O and P. This results in an improved situation for woodland in that there is a reduction in the felling proposed of 0.2Ha for the OHL. The area of recently felled woodland at section L to the north of the proposed modification will require to have a wayleave corridor left unplanted over a distance of 566m and a width of 25m. This equates to the sterilisation of 1.41Ha of this woodland area.

6.74 On the basis that the cable will be laid within the existing roadway and there being adequate demarcation of the working area to exclude damage to the roadside trees then there is no predicted construction impact from the Fullwood to Cartland Crags underground cable proposed modification. The proposed modification south of the River Clyde which deviates to the west away from the ES route does result in an increased adverse impact on woodland. The route presented in the ES as shown on Figure A13.3 would require the felling of approximately 20 native species of tree predominately willow. The proposed modification to the west results in an estimated 60 trees requiring removal including a more diverse range of both native and non-native species.

Mitigation

6.75 For the main section the underground cable will be buried within the carriageway of the road. For this a tree protection zone will be identified by LANTRA professional tree inspection or a similar qualified person prior to works commencing.

6.76 Mitigation works will include the replanting of these areas with suitable native species. This would improve the current status of this site by increasing the proportion of over storey (climax) species. The site appears to have had some degree of industrial disturbance in the past and this is demonstrated by the presence of large numbers of pioneer species mainly willow.

6.77 There will be no loss to Ancient Woodland as a result of the proposed modifications.

Residual Impacts

6.78 The residual impact of the proposed modification of the grid connection in its entirety is as follows:

- Section A (pole numbers 115-112) Clearance of 1.15Ha of semi mature conifer forest is required.
- Section B (pole numbers 108-105) Clearance of 0.65Ha of semi mature conifer forest is required.
- Section C (pole numbers 105-101) Clearance of 4.70Ha of young (2m high) conifers to be felled.
- Section G (pole numbers 77-74) Clearance of 2.47Ha of young conifer woodland to be felled.
- Section L (pole number 5-6) Clearance of 0.27Ha of Lodgepole pine conifer woodland requires to be felled for the wayleave. In addition it is anticipated that this tree clearance will result in further windblow to a further 1.07Ha of trees. It is proposed to mitigate this wind blow by felling of these trees. A section of recently felled forest to the north of section L will now be sterilised by the presence of the line over a distance of 566m and a width of 25m. This will impose a restriction on the replanting of this area (1.41Ha). A section of recently felled forest to the north of section L will now be sterilised by the presence of the line over a distance of 566m and a width of 25m. This will impose a restriction on the replanting of this area (1.41Ha)
- Section Q (underground cable) Clearance of 0.02Ha of riparian woodland is required.
- Section R (underground cable) Clearance of 0.085Ha of mixed species woodland is required.

6.79 In summary the total works proposed for the OHL and undergrounding is the clearance of 9.81Ha of trees for the creation of the 50m wide corridor. In addition, there is the need to sterilise a further 1.41Ha of recently felled forest where commercial tree planting should now not take place. In addition at sections L and M, a further2.47Ha of trees will be felled as part of the woodland management/mitigation strategy.

6.80 Relative to the ES there is a net reduction in the area of conifer trees to be cleared from 9.91Ha to 9.71Ha within the 50m corridor of the OHL, however, there is an increase of 1.41Ha in the area of recently felled forest land sterilised by the OHL at section L. There is an increase in the impact of the underground line on the removal of trees form 0.07Ha to 0.11Ha.

Summary

6.81 The revised LVIA assessment of the proposed modification to the OHL route at Fullwood has found that the impacts on landscape resources will remain as significant during construction and not significant during operation, as previously presented in the ES. During construction of the underground cable, impacts on landscape resources are judged to be reduced from those associated with the OHL route as presentedin the ES. Once operational, the underground cable will result in no discernable impacts on landscape resources.

6.82 During construction and operation of the proposed modification to the OHL and underground cable, the revised LVIA has predicted that impacts on LCTs will remain not significant. There are no significant impacts predicted on landscape designations during construction and operation of the proposed modifications to the OHL and underground cable.

6.83 In terms of visual amenity, the proposed modifications to the OHL, underground cable and terminal pole location will result in no visibility of the OHL route, terminal pole or underground cable route from Viewpoints 8 and 9 during construction and operation. It is predicted that there will be a significant visual impact on Viewpoint 10 during construction of the OHL and underground cable. During operation, the visual impact on this viewpoint will not be significant. Impacts on settlements and routes are predicted to be not significant during construction and operation which is consistent with the findings presented in the ES.

6.84 In relation to the water environment, the proposed modification of the OHL in this section, means that several watercourses are no longer crossed by the OHL, but rather by the underground cable. It is predicted that there may be direct impacts of construction of the underground cable on surface water hydrology, flood risk, water quality and water resources. However, with proposed mitigation in place as discussed, impacts will be negligible and not significant as presented within the ES.

6.85 The ecology assessment found that, subject to mitigation presented in the ES, impacts on habitats associated with the proposed modifications to the OHL and underground cable will not be significant. This also applies to protected species.

6.86 The cultural heritage assessment for the modified route has identified that there would be a change in the baseline situation within the Core Study Area. Sixteen additional cultural heritage assets have been identified, including Lee Castle Garden and Designed Landscape (47), The Lee, South Lodge (48), and Castle Qua, a Scheduled Monument (79) which are considered to be of high heritage value / sensitivity. Taking into account the limited extent of the proposed ground disturbance resulting from the proposed modifications to the grid connection, the likelihood of construction works encountering remains of archaeological significance is considered to be low. The revised assessment has found that following the implementation of mitigation as set out in the ES, there will be no significant impacts on cultural heritage assets during construction of the OHL and underground cable route modification. There are no significant impacts predicted on the setting of cultural heritage assets once the OHL and cable are operational.

6.87 In regards to noise impacts, the revised noise assessment for the proposed modifications has found that three additional properties now lie within 60m of the proposed route. However, it is not considered that noise impacts on these receptors will be significant based on the criteria set out in the ES.

6.88 The revised land use assessment has found that there will be no significant impacts in relation to mineral extraction from the proposed modification, and that the proposed modification now avoids previously identified disused mine shafts along the route. In terms of impacts on forestry, there will be no loss to ancient woodland, whilst the area which will be lost to forestry/woodland will be 11.23Ha

7 Summary and Conclusions

7.1 As identified at **Section 2** and shown on **Figure A4.1**, modifications to the grid connection route are proposed at Hill Rigg, Hole Farm, Fullwood and the underground cable section. These sections of the route which are located outwith the 25m infrastructure location allowance have been assessed as part of this Addendum; elsewhere along the route, the assessment of impacts will remain as presented in the ES.

7.2 In terms of landscape receptors, it is anticipated that there will be no change to the impacts of the OHL as presented in the ES for Hill Rigg, Hole Farm and Fullwood. There are also no changes to the impacts on landscape receptors as reported in the ES during construction of the proposed modified underground cable route.

7.3 For visual receptors, the impacts of the proposed modifications to the OHL at Hill Rigg and Hole Farm on viewpoints, settlements and routes will remain unchanged from the impacts reported in the ES during construction and operation of the grid connection. There is a significant visual impact predicted on new Viewpoint 10: Moor Road, near Fullwood, which has been included within the Addendum to reflect the new terminal pole location, during construction of the proposed modification to the OHL and underground cable.

7.4 In relation to ecology and ornithology, the proposed modifications will not result in changes to the impacts predicted within the ES in terms of the residual impacts on displacement and collision risk and the relevant habitat, flora and fauna receptors including protected species. The preparation of a Badger Protection Plan, Bird Protection Plan, use of bird diverters, and presence of an Ecological Clerk of Works are proposed as mitigation for effects in accordance with the ES.

7.5 The revised cultural heritage assessment for the proposed modification at Hill Rigg identified a change to the baseline conditions within the Core Study Area. Having reviewed the additional assets therein (4 assets in total), it was found that construction of the proposed OHL modification could result in a direct impact on the Corbinshaw Farmstead feature during construction of the modified route. However, due to the low heritage value / sensitivity of this asset, and the proposed mitigation that will be implemented, any impacts on this feature will not be significant. For the proposed modification to the OHL route at Fullwood and underground cable to Linnmill substation, there were also changes to the baseline conditions within the Core Study Area. Sixteen assets were identified, three of which were considered to have high heritage value/sensitivity. However, the revised assessment found that following the implementation of mitigation as set out in the ES, there will be no significant impacts on cultural heritage assets during construction of the proposed modifications to the OHL and underground cable. There are also no significant impacts predicted on the setting of cultural heritage assets once the OHL and underground cable are operational.

7.6 Whilst the proposed modification will result in the overhead line being located 10m closer to the watercourse, the impacts in relation to surface water hydrology, flood risk, water quality and water resources will remain unchanged from those presented in the ES due to the application of proposed mitigation measures. Whilst there are impacts predicted in relation to surface water hydrology, flood risk, water quality and water resources during construction of the underground cable, these will not be significant following the implementation of the proposed mitigation as presented in the ES. Additional mitigation may also be necessary within the vicinity of Lockhart Mill should a private water supply be confirmed prior to construction, and this will be confirmed in consultation with South Lanarkshire Council.

7.7 In terms of noise impacts, three additional receptors are located within 60m of the proposed underground cable route, however as predicted within the ES, it is not anticipated that noise impacts will be significant during construction.

7.8 The land use assessment has identified that there will be no significant impacts in relation to mineral extraction for the proposed modifications. The assessment has found that there will be a net reduction in the amount of felling required to accommodate the proposed modifications (12.45 Ha as presented in the ES compared with 11.23 Ha).

7.9 It can therefore be concluded that the proposed modifications required for the grid connection will not materially change the significance of impacts on landscape, ornithology, ecology, cultural heritage, the water environment, noise and land use as presented within the ES supporting the application for Section 37 consent, following proposed mitigation.

Appendix A7.1: Photographs of Watercourse Crossings

Appendix A7.1 Photographs of Watercourse Crossings

Plate 1: Upstream view of the Back Burn tributary at the proposed crossing (Crossing C15A)

Plate 2: Upstream view of Fullwood Burn tributary 1 at the crossing (Crossing C16A)

Plate 3: Fullwood Burn tributary 3 at the crossing location, looking downstream (Crossing C19A)

Plate 4: Fullwood Burn tributary 4 at the crossing location, looking downstream from existing outlet under the minor road (Crossing C20A)

Plate 5: Un-named tributary 1 of Mouse Water looking downstream from crossing location (Crossing C21A)

Plate 6: Un-named tributary 2 of Mouse Water at crossing location (Crossing C22A)

Plate 7: Culvert outlet of un-named tributary 2 of Mouse Water at crossing location (Crossing C22A)

Plate 8: Underground cable route along track to the north of Hawthorn Cottage looking south-west. Note woodlands of the Mouse Water/Cartland Craigs SSSI downslope of the proposed route.

Appendix A10.1: Cultural Heritage Sites and Features - Hill Rigg

Appendix A10: Cultural Heritage Sites and Features within the Core Study Area

Appendix A10.1 Cultural Heritage Sites and Features - Hill Rigg

Site No.	Site name and Type	SMR / NMRS No.	Easting	Northing	Source	Site Description	Value / Sensitivity	Type of Impact before Mitigation	Magnitude of Impact	Significance of Impact Prior to Mitigation
22	Sheepfold		290944	650087	Historic maps; Field survey	A small rectangular sheepfold is shown on the 1913 Ordnance Survey map but is not shown on the 2011 1:10,0000 map. Field survey did not identify any remains of the sheepfold.	Negligible	None	N/A	N/A
23	Enclosure, Corbinshaw		291022	649579	Historic Maps	A small rectangular enclosure aligned east to west is depicted on the Ordnance Survey 1st Edition map to the north-east of Corbinshaw farmstead (**24**). The enclosure is bounded on its eastern side by a field boundary. The enclosure is not shown on the Ordnance Survey 2nd Edition map[i], although the field boundary remained in place. The field boundary continues to be depicted on the 2011 1:10,000 Ordnance Survey Map.	Negligible	None	N/A	N/A
24	Corbinshaw, Farmstead	17419	290830	649410	SMR; Historic maps; Field survey	The SMR records that the Ordnance Survey 1st Edition map depicts a farmstead, annotated as 'Cobbinshaw'. The Ordnance Survey 1st Edition map indicates that at that time the farmstead comprised a partially unroofed rectangular building with four compartments aligned northeast to southwest and with only the most south-westerly compartment still roofed. The building was surrounded by a small rectangular enclosure. An unroofed building, with no enclosure was shown on the Ordnance Survey 2nd Edition map, and the 1913 revision. An unroofed structure is visible on aerial photographs from 1946 and on modern (Google Earth™) aerial photography. Field survey found the remains of the farmstead which are visible as piles of stone, with a hollowed out (possibly quarried) area to the east. Field clearance has been added to the remains of the building as well as other waste materials, such as corrugated iron etc. The remains of three building compartments are visible, surviving to a height of 0.6m.	Low	Direct. Access track and wooden poles proposed in immediate vicinity of the farmstead.	High	Moderate
72	Greenbank Farm	NS94NW 42	29002	64870	NMRS; Historic maps	A farmstead (**72a**), comprising two roofed buildings, two unroofed structures and three enclosures is depicted on the Ordnance Survey 1st Edition map[6]. The Ordnance Survey 2nd Edition map marks this building as largely unroofed, with a small roofed section at its centre. A new u-shaped range of buildings (**72b**) is marked further to the south. This southern range of buildings continues to be occupied today, there is no remaining trace of the northern range of buildings (**72a**).	Low	None	N/A	N/A
73	Quarry		290009	648788	Historic maps	A quarry is marked at this location on the Ordnance Survey 2nd Edition map. The location is now within the farmyard of Greenbank Farm.	Negligible	None	N/A	N/A

[6] Ordnance Survey (1864) *First Edition, Lanarkshire,* Sheet XXV, 6" to 1 mile.

Site No.	Site name and Type	SMR / NMRS No.	Easting	Northing	Source	Site Description	Value / Sensitivity	Type of Impact before Mitigation	Magnitude of Impact	Significance of Impact Prior to Mitigation
74	Quarry		289738	648243	Historic maps	An 'old quarry' is marked at this location on the Ordnance Survey 2nd Edition map. The location of the former quarry is now located within a field of improved pasture.	Negligible	None	N/A	N/A

Appendix A10.2: Cultural Heritage Sites and Features – Hole Farm

Appendix A10.2 Cultural Heritage Sites and Features – Hole Farm

Site No.	Site name and Type	SMR / NMRS No.	Easting	Northing	Source	Site Description	Value / Sensitivity	Type of Impact before Mitigation	Magnitude of Impact	Significance of Impact Prior to Mitigation
25	Hole, Farmstead		289800	648125	Historic maps	A farmstead or a 'fermtoun' surrounded by rig and furrow cultivation and annotated as 'Hole' is depicted on Roy's map (1747-55). The same settlement is also shown on Ross's map (1773) and Forrest's map (1816). A farmstead, annotated as 'Hole', is depicted on the Ordnance Survey 1st Edition map and comprises a roofed rectangular steading, a second roofed building and an associated enclosure. The farmstead continues to be occupied today. The position of the farmstead is taken from the 1st Edition Ordnance Survey map, and is the post improvement farmstead. The pre-improvement fermtoun may or may not have been located at the same or similar approximate location, but the less accurate surveying techniques used to produce the earlier cartographic sources makes it impossible to be certain about this.	Low	None	N/A	N/A
26	Castledykes – Botwellhaugh – Balmuildy, Roman Road	12153	2897	6482	SMR	The SMR records this section of the Roman road. The course of the road is marked on Roy's Military Survey and annotated as 'Roman Way'. The northerly alignment is maintained beyond Collielaw farm as far as Collielaw Cottage, where there is a slight change of course to the east; the modern road then takes up the line for about 300m and leaves it as the Roman road ascends the southeast shoulder of Kilcadzow Law, passing through the steading of Hole and crossing the Carluke-Carstairs highway (A721) about 75m east of its junction with the minor road leading from Cleghorn. Although now much spread by ploughing, slight traces of the agger appear in the first field north of the modern road, where the Roman road curves round to the WNW and, falling in with the line of a field-wall, proceeds along the crest of the Law through Hill of Kilcadzow farm. Field survey noted that the modern road follows the same alignment as the former Roman road at this location. Without excavation in the area it is not possible to be certain that the modern road directly overlies the former course of the Roman road, or whether the course has been subject to deviations or amendments over time.	Medium	Direct: Access tracks cross the assumed alignment of the Roman road. One wooden pole will be erected in close proximity to the assumed course of the Roman road.	Unknown (Potentially Low)	Unknown (Potentially Minor)
27	Collielaw Cottage, Building	41312 (NS84NE 18)	289920	647810	SMR; NMRS; Historic maps	The SMR and NMRS record that a single unroofed building is depicted on the Ordnance Survey 1st Edition map (1864) but is not shown on the 1993 OS 1:10,000 map. The earliest cartographic evidence for Collielaw comes from Roy's Military Survey (1747-55) which depicts a farmstead or 'fermtoun' annotated as 'Coly Law'. Forrest's map (1816) also depicts the farmstead annotated as 'Collylaw'. Examination of the Ordnance Survey 1st Edition map (1864) identified the single unroofed building recorded by the SMR, which is attached to the	Low	None	N/A	N/A

Site No.	Site name and Type	SMR / NMRS No.	Easting	Northing	Source	Site Description	Value / Sensitivity	Type of Impact before Mitigation	Magnitude of Impact	Significance of Impact Prior to Mitigation
						southwest corner of a large rectangular enclosure. Immediately south of the enclosure a larger farmstead is depicted comprising a T-shaped building, two rectangular buildings, a small square enclosure and a well. The farmstead, including the single unroofed building, is annotated as 'Collielaw'. On the Ordnance Survey 2nd Edition map (1898) the unroofed building is no longer depicted and the main farm buildings are only shown as three unroofed structures attached to the square enclosure. On the 1913 Ordnance Survey map (1913) the farmstead now comprises one roofed building and two enclosures, and annotated as 'Collie Law Cottage'. The 2011 Ordnance Survey 1:10,000 map depicts Collie Law Cottage as an unroofed building.				

Appendix A10.3: Cultural Heritage Sites and Features – Fullwood to Cartland Crags

Appendix A10.3 Cultural Heritage Sites and Features – Fullwood to Cartland Crags

Site No.	Site name and Type	SMR / NMRS No.	Easting	Northing	Source	Site Description	Value / Sensitivity	Type of Impact before Mitigation	Magnitude of Impact	Significance of Impact Prior to Mitigation
31	Fullwood, Farmstead	41077 (NS84NE 35)	288453	646789	SMR; NMRS; Historic maps	Fullwood is annotated as such on Roy's map (1747-55). Two settlements annotated 'Old Fullwood' and 'New Fullwood' are shown on Forrest's (1816) and Thomson's (1832) maps. Fullwood is depicted and annotated on the Ordnance Survey 1st Edition map (1864) and a triangular field boundary/enclosure is shown jutting out to the north-west of the farmstead. The farmstead but not the triangular enclosure are depicted on subsequent maps, and two wells are depicted and annotated approximately 50m to the northwest of the farm on the 1913 Ordnance Survey Revision[ii]. It is likely that the farmstead depicted from the Ordnance Survey 1st Edition map onwards is a more recent farmstead, thus accounting for the annotations of 'Old Fullwood' and 'New Fullwood' as depicted on Forrest's (1816) and Thomson's (1822) maps, Old Fullwood having been located further to the south.	Low	None	N/A	N/A
32	Craigenhill Cottage		287663	646881	Historic maps; Field survey	The Ordnance Survey 2nd Edition map (1898) marks the location of Craigenhill Cottage to the immediate north of the Caledonian Railway. Field survey identified the remains of the building surviving in fair condition. The building measures approximately 10m x 7m and has possible entrances on its eastern and western sides. The building was of stone construction with some brick construction evident at the northern end.	Low	None	N/A	N/A
33	Craigenhill; Lime Works, Lime Kilns, Clamp-kilns, Quarry, Mine	22213, 52499	287450	647220	SMR; Historic maps; Field survey	The current Ordnance Survey map marks this area as an area of disused quarries. The 1st Edition Ordnance Survey map shows quarries, a mine, a double lime kiln, a possible single lime kiln, a structure and a series of 6 clamp kilns called Craigenhill Lime Works. There is also a mineral railway depicted running through the eastern side of the Craigenhill Lime Works and connecting with the Caledonian Railway. Field survey recorded the remains of the route of the mineral railway which is visible as a hollow trackway approximately 2.5m deep and 6m wide. A large amount of disturbance in the area due to quarrying was clearly visible. The remains of lime kilns (**a**) as depicted on the 1st Edition Ordnance Survey map were found to survive as turf covered remains. In addition the remains of a further structure (**b**) were recorded further to the north, surviving as grass covered remains approximately 0.5m high and 1m wide with a hollowed out centre. This structure is likely to be the remains of a further limekiln, but alternatively may be the turfed over remains of a building.	Low	None	N/A	N/A
45	Trackway, Quarry Tintochland				Historic Maps	The Ordnance Survey 1st Edition map (1864) depicts a trackway running north-east to south-west from Newsteadings farmstead at its northern end. At the south-western end of the track it turns and runs to the west for a short distance before running to the east of Tintochland (**46**) and a woodland shelter belt, in a SSE to NNW direction to a quarry. The 2nd	Negligible	Direct (underground route follows the course of the track to	Medium	Negligible

Site No.	Site name and Type	SMR / NMRS No.	Easting	Northing	Source	Site Description	Value / Sensitivity	Type of Impact before Mitigation	Magnitude of Impact	Significance of Impact Prior to Mitigation
						Edition Ordnance Survey Map (1898) marks the quarry as 'old quarry'. It continues to be marked in this way on subsequent maps until the 1940-41 revision when it is no longer marked. The western part of the trackway is no longer depicted on the Ordnance Survey 2nd Edition Map, but the eastern part of the trackway is depicted on all Ordnance Survey maps, continuing to be depicted on the current 2011 1:10,000 map. A quarry marked 'Old Quarry' is depicted on the 1913 Ordnance Survey map (1913) at 286660 644895. Field survey failed to identify any remains of the western part of the trackway.		the south of Newsteadings Farm).		
46	Buildings, trackway, Tintochland		286605	647705	Historic maps	Two rectangular buildings and one T-shaped building are depicted and annotated 'Tintochland' on the Ordnance Survey 1st Edition map (1864), to the east of Chapel Knowe. The buildings are linked by a trackway going south-east towards the main road to the south. None of the buildings are shown on the Ordnance Survey 2nd Edition map (1898) but a rectangular enclosure is shown to the north of the three buildings within a shelterbelt, and a well is depicted, annotated as 'W'. The 1913 Revision (1913) shows the rectangular enclosure as a dashed line and the well is now annotated as 'spring'. Neither the enclosure, the well or the trackway are shown on the 2011 1:10,000 Ordnance Survey map, but a field boundary follows the alignment of the earlier trackway. Roy's Military Survey (1747-55) annotates 'Tinlock land' as an area of cultivated fields, and 'Tinlockland' is annotated on both Forrest's (1816) and Thomson's (1822) map. This site was not visited during the field survey as it was not possible to arrange site access.	Low	None	N/A	N/A
47	Lee Castle, Garden and Designed Landscape		285473	645994	Inventory of Garden and Designed Landscapes	The Inventory records that Lee Castle stands within some 910 acres (366ha) of designed landscape which extends north to a minor road linking the A73 with Birkhill Farm, south to West Nemphlar Road off the A73, west to the woodland ridge above the Auchenglen Burn, and east to the A73. The woodland, parkland and gardens make an impressive setting for the Category B Listed Lee Castle. Also contained within the GDL are the Category B Listed Buildings of The Lee, South Lodge (**48**) and the Dovecote (Listed Building No. 13057). It is believed that the designed landscape as shown on the 1st Edition Ordnance Survey map was laid out in the first half of the 19th century, but at that time extended only as far south as the Lochartbank road. The south drive was extended during the latter half of the 19th century to its current form, and a new lodge (**48**) was erected at the entrance to the policies.	High	None	N/A	N/A
48	The Lee, South Lodge	NS84SE 240	286564	644477	Statutory List	The Statutory List records the building as an early 19th century Gothic lodge. No further information is provided. The building continues to be occupied today. The lodge is a Category B Listed Building (Index no. 13058).	High (as located in GDL)	None	N/A	N/A
49	Cartland, (Wallaces	10205 (NS84SE	286910	644540	NMRS; SMR; Historical maps	The NMRS and SMR record that a cave in the ravine known as 'Cartland Craigs' is traditionally said to have been used as a refuge by Sir William	Low	None	N/A	N/A

Site No.	Site name and Type	SMR / NMRS No.	Easting	Northing	Source	Site Description	Value / Sensitivity	Type of Impact before Mitigation	Magnitude of Impact	Significance of Impact Prior to Mitigation
	Cave); Cave	2)				Wallace. The Ordnance Survey 1st Edition map (1864) marks the location of 'Wallace's Cave'. Field survey carried out by the Ordnance Survey in 1954 recorded that 'Wallace's Cave' is a natural, inaccessible rock cleft.				
50	Cartland Bridge, Road Bridge	10262 (NS84SE 71.00)	286871	64480	NMRS; SMR	The NMRS and SMR record that Cartland Bridge was built in 1822 to a design by Thomas Telford. It is a 3-span, dressed stone bridge with semi circular arches[iii]. The bridge is located at a point where the River Mouse Water runs through a very deep narrow valley. The carriageway is supported by two soaring pillars of yellow, ashlar sandstone approximately 120m high, rising from the bed of the stream and two other columns abutting the sheer rock face. The SMR records that a site visit by the Historic Scotland Monument Warden in 1993 reported that the bridge has been spoilt by widening works in the 1950s. A new cantilevered pavement with iron railings was added to the south-west side, and a solid concrete parapet was built on the northeast, both completely out of character with the original elegance of the bridge. The SMR also record the remains of the bridge's medieval predecessor, a single arch bridge, approximately 4m wide and with remains in a few sections up to 10cm in height. The bridge is a Category B Listed Building (Index No. 13054).	Medium	None	N/A	N/A
51	Turnpike, Cartland Bridge		286832	644466	Historic maps	A small square building is depicted and annotated 'Cartland bridge T.P' on the Ordnance Survey 1st Edition map (1864 Lanarkshire, Sheet XXV), to the west of Cartland Bridge itself (**50**).The building is shown on both the 2nd Edition Ordnance Survey map (1898), and the 1913 Revision (1913). The field survey identified that the building which has been extended continues to be occupied today.	Low	None	N/A	N/A
52	Lodge, building		286668	644365	Historic maps	A rectangular building is depicted and annotated 'lodge' on the Ordnance Survey 1st Edition map (1864). The building is still shown and annotated as 'Lodge' on the 2011 1:10,000 Ordnance Survey map. It is located at the northern end of the trackway leading to 'Sunnyside'. Field survey identified the building which continues to be occupied today.	Low	None	N/A	N/A
75	Burnhead; Findspot: Flint arrowhead, axes, Roman coins	10162 / NS84NE 5	287970	646330	SMR; NMRS	The NMRS and SMR record that flint arrowheads, hatchets and numerous coins, both silver and gold, of Roman origin, have been found at Burnhead and Castlehill[7]. The Ordnance survey were unable to find out any further information about these finds in 1955.	Negligible	None	N/A	N/A

[7] Lewis, S. (1846) *Topographical Dictionary of Scotland.*

Site No.	Site name and Type	SMR / NMRS No.	Easting	Northing	Source	Site Description	Value / Sensitivity	Type of Impact before Mitigation	Magnitude of Impact	Significance of Impact Prior to Mitigation
76	Castlehill; Farmstead	51312	288040	646170	SMR; Historic maps	The Ordnance Survey 1st Edition map[8] marks the farmstead of Castlehill (**76a**) at this location. It comprises one long range building and two smaller buildings, all shown as roofed. A well (**76b**) is marked to the north-west of the buildings. The Ordnance Survey 2nd Edition map[9] no longer shows this farmstead but marks the new farmstead of Castlehill (**76c**) to the north-west of its predecessor. It comprises a U-shaped range of buildings, and is likely to be the result of settlement shift. The well (**76b**) continued to be depicted. Castlehill farmstead continues to be occupied today.	Low	None	N/A	N/A
77	Gill; Farmstead	51313	287930	646060	SMR; Historic maps	Roy's Military Survey (1747 -55) shows a farmstead of three buildings named 'Gill' at this location. The farmstead is not shown on more recent cartographic sources. The farmstead is likely to have fallen out of use during the agricultural improvement period, and is not shown on the Ordnance Survey 1st Edition map.	Low	None	N/A	N/A
78	Newsteadings; Farmstead		287247	645216	Historic maps	Newsteadings farmstead is depicted on the Ordnance Survey 1st Edition map[10]. It comprised a u-shaped range of buildings with two square buildings marked to the north-east. The farmstead continues to be occupied today.	Low	None	N/A	N/A
79	Castle Qua; Earthwork	NS84SE1 / 10194	287390	644910	NMRS; SMR; Statutory List	The NMRS and SMR record the location of Castle Qua, also known as 'The Castle of the Quaw', of 'Castle Dykes'. The Old Statistical Account[11] notes that the site "is a stronghold bounded by traces of a double ditch on the land side, enclosing about half a rood of ground, and on the side next the river by a precipice some 200 feet high. There are no traces of buildings excepting some possible foundations, but there are some artificial caves or arch ways. One of them, which was opened, was about 7 or 8 feet in length, and 4 feet wide, running in a bending direction towards the centre of the inclosure from the brink of the rock; the height about 3 ½ feet. It was built of undressed stone in corbelled fashion and unmortared. In the bottom of the archway was a fat black earth intermixed with some bones in the state of ashes. Several other archways or holes like the above, running in different directions, still exist, although not hitherto explored." The site was visited by Ordnance Survey surveyors in both 1938 and 1962, recording that the site measures approximately 28m internally, east to west by 30m. No stones were visible within the interior, though some hollows approximately 0.5m deep were apparent. Both ditches were about 0.8m wide, the outer one having been almost entirely ploughed out. RCAHMS suggested in 1978 that the earthworks at Castle Qua are almost certainly medieval.	Low	None	N/A	N/A

[8] Ordnance Survey (1864) *Lanarkshire, Sheet XXV*, 6" to 1 mile
[9] Ordnance Survey (1896) *Lanarkshire Sheet XXV.NE* 6" to 1 mile
[10] Ordnance Survey (1864) *Lanarkshire, Sheet XXV* 6" to 1 mile.
[11] Sinclair, J. (Ed.) (1791) *The Statistical Account of Scotland, drawn up fromt he communications of the ministers of the different parishes.*

Site No.	Site name and Type	SMR / NMRS No.	Easting	Northing	Source	Site Description	Value / Sensitivity	Type of Impact before Mitigation	Magnitude of Impact	Significance of Impact Prior to Mitigation
						The SMR note that the earthworks are depicted, but not named on Roy's Military Survey (1747-55). This map shows only one ditch line, which may imply that one ditch was more obvious in the mid 18th century, and may therefore indicate that an earlier defended site was being re-used in the medieval period. The site is designated as a Scheduled Monument (Castle Qua, fort 345m WSW of Mouse Bridge, No. 2604).				

Appendix A10.4: External Receptors within the Outer Study Area

Appendix A10.4 External Receptors within the Outer Study Area

Site No.	Site Name	Status	Easting	Northing	Value / Sensitivity of Receptor	Setting	Predicted Impact	Contribution of Setting	Sensitivity of Setting	Impact Magnitude	Significance of Predicted Impact
2604	Castle Qua,fort 345m WSW of Mouse Bridge	Scheduled Monument	287412	644893	High	Castle Qua, which is believed to be of medieval date, survives as an earthwork and is largely surrounded by woodland. The proposed OHL would be visible only from the north-eastern corner of the site. It would theoretically be visible to the north of Castle Qua, but would be visible only behind other modern features including several farmsteads and the railway.	Indirect (maximum of one wooden pole theoretically visible)	Moderate	High	Imperceptible	Negligible
11528	Collielaw Wood, Roman road SSE of Collielaw	Scheduled Monument	290065	647061	High	Length of Roman road passes through an area which is now wooded. The road is not visible on the surface. The more recent buildings of Collielaw Farm overlie the course of the Roman road to the north-west and prevent views of the course of the road in this direction. Distant views of the proposed OHL beyond the farm buildings would cause only a barely distinguishable impact upon the setting of the road.	Indirect (maximum of 20 wooden poles theoretically visible)	Low	Medium	Imperceptible	Negligible
13053	Jerviswood	Category A Listed	288376	645514	High	Jerviswood is a late 16th or early 17th century Laird's house. Jerviswood is surrounded by trees on its northern and eastern sides and these would partly screen views of the proposed OHL The proposed OHL would be partly visible in distant views approximately 1.5km away.	Indirect (maximum of seven-wooden poles theoretically visible)	High (localised)	High	Low	Minor
	Lee Castle	GDL	285440	645977	High	Lee Castle GDL provides the setting for the Category B Listed Buildings of The Lee (Index No. 13056) and The Lee, Dovecote (Index No. 13057). The designed landscape covers some 910 acres and lies within the broad valley which was the former course of the river Clyde before it was diverted during the Ice Age. Key views are from the northern end of the GDL looking south, and these would be unaffected by the proposed development.	Indirect (maximum of one wooden pole theoretically visible)	High (localised)	High (localised)	Imperceptible	Negligible
671	Auchterhead Muir, Covenanters Monument, Darmead-Linn	Category B Listed	290116	655310	Medium	Located within an area of moorland which now lies within the Black Law windfarm. Turbines are currently visible behind the monument, and the proposed grid connection poles would appear behind these turbines.	Indirect (maximum of 25 wooden poles theoretically visible)	Low	Low	Low	Negligible

[i] Ordnance Survey Second Edition (1898) Lanarkshire, Sheet XXV six inches to one mile.
[ii] Ordnance Survey 1913 Lanarkshire, Sheet XXV six inches to one mile.
[iii] Butt, J. (1967). The Industrial Archaeology of Scotland. The industrial archaeology of the British Isles Series, Newton Abbot. Hume, J.R. (1976). The industrial archaeology of Scotland, 1, Lowlands and Borders. London.