Volume 2: Chapter 16 - Cumulative Effects

VOLUME 2, CHAPTER 16: CUMULATIVE EFFECTS

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16. CUMULATIVE EFFECTS

16.1 Introduction

16.1.1 This Chapter considers the potential significant cumulative effects predicted for the Proposed Development when considered alongside other reasonably foreseeable future developments ('in-combination effects'), and the potential for 'interactive effects' of the Proposed Development on common receptor groups.

16.1.2 This assessment is consistent with other SSEN Transmission Accelerated Strategic Transmission Investment (ASTI) projects' Environmental Impact Assessments (EIAs) in its methodology and approach to the assessment of in-combination cumulative effects.

16.1.3 This Chapter should be read in conjunction with Volume 1, Chapter 3: Project Description, Chapter 5: EIA Process and Methodology as well as Volume 2, Chapters 7-15:

- **Chapter 7: Land Use and Prime Agricultural Land** presents a section-by-section general overview of the land use baseline and the findings of the assessment of the likely significant effects of the Proposed Development on Prime Agricultural Land (PAL), fisheries and recreational airfields.
- **Chapter 8: Forestry** presents the findings of the assessment of the likely significant effects of the Proposed Development on forestry.
- **Chapter 9: Landscape and Visual Amenity** presents the findings of the assessment of the likely significant effects of the Proposed Development on landscape and visual receptors and includes a Residential Visual Amenity Assessment (RVAA).
- **Chapter 10: Cultural Heritage** presents the findings of the assessment of the likely significant effects of the Proposed Development on cultural heritage.
- **Chapter 11: Ecology** presents the findings of the assessment of the likely significant effects of the Proposed Development on ecology, including habitats and protected species.
- **Chapter 12: Ornithology** presents the findings of the assessment of the likely significant effects of the Proposed Development on ornithological receptors.
- **Chapter 13: Hydrology, Hydrogeology, Geology and Soils** presents the findings of the assessment of the likely significant effects of the Proposed Development on the water environment and geological resources including peat.
- **Chapter 14: Traffic and Transport** presents the findings of the assessment of the likely significant effects of the Proposed Development on the traffic and transport network and its users.
- **Chapter 15: Noise and Vibration** presents the findings of the assessment of the likely significant noise and vibration effects of the Proposed Development on sensitive receptors.

16.1.4 The following terminology is referred to throughout this chapter:

- LOD: Limit of Deviation (LOD) is the maximum extent within which the Proposed Development can be built allowing for potential future micro-siting of towers, access tracks and temporary working areas; see **Volume 1, Chapter 3: Project Description**.
- Proposed Development: the proposed Kintore to Tealing 400 kV Overhead Line (OHL) and ancillary works; see **Volume 1, Chapter 3: Project Description**.
- Reasonably foreseeable developments: an anticipated development which has either not yet been consented or has not yet been constructed. There are two categories of reasonably foreseeable future developments considered in this chapter:
  - intra developments – SSEN Transmission associated developments, that is SSEN Transmission projects associated with, and connected to, the Proposed Development (ie the proposed 400 kV substations at Emmock and Hurlie); and
  - inter developments - other SSEN Transmission developments and third-party developments.
- Receptor: A distinct part of the receiving environment on which effects are predicted in the EIA.

- Study area: the geographical area in which an assessment is undertaken.
- Significant effect: one which is considered material in the decision-making process, and which is typically evaluated from the product of the sensitivity of a receptor and the magnitude of any given predicted impact on a receptor, as defined in V**olume 2, Chapter 5: EIA Process and Methodology**.
- Cumulative effect: the effect of more than one predicted effect acting on a receptor. These may be:
  - in-combination effects: those arising from consideration of the Proposed Development in combination with other reasonably foreseeable developments; or
  - interactive effects: those arising from the interaction of different impact types of the Proposed Development on key receptors such as communities, designated areas and sensitive area-wide ecosystems.
- Indirect effect: an effect arising as an adjunct to a direct effect, usually as a result of a complex impact pathway.
- Transboundary effect: effects associated with a development that cross political or other socio-geographical boundaries.

16.1.5 This Chapter is accompanied by **Figures 16.1.1 to 16.1.7: Cumulative Assessment** to illustrate the assessment.

16.2 Scope of the Assessment

Effects Assessed

16.2.1 The following cumulative effects were considered:

- The potential for significant residual (ie after application of mitigation) cumulative effects on receptors resulting from the Proposed Development during construction and operation in combination with other reasonably foreseeable developments in the vicinity (in-combination effects).
- The potential for different impacts on local receptors arising from the Proposed Development during construction or operation which when occurring together interact in such a way that the effect experienced by the receptor is greater and possibly more significant (interactive effects).

Effects Scoped Out

16.2.2 In line with the methodology set out in **Volume 1, Chapter 5: EIA Process and Methodology** and the spatial scope of the study area, the following effects are scoped out:

- Transboundary effects: scoped out due to the spatial extent of the significant effects identified in this EIAR not being transboundary in nature.

Study Area

16.2.3 The Study Area for the cumulative effects assessment was defined by the Study Areas used for the technical chapters it draws on, as the potential for a cumulation of effects cannot exist outwith the spatial scale of the primary effects themselves. The study areas for each technical assessment have already been defined in the relevant technical chapters (**Volume 2, Chapters 7-15**) and will not be replicated here but are typically defined as an area within approximately 3 km of the Proposed Development. The Study Area has also taken into account the spatial extent of predicted significant effects (where reported and available) for the intra developments assessed in the in-combination cumulative assessment. The assessment of interactive cumulative effects has adopted a similar study area.

16.3 Assessment Methodology

Legislation, Policy and Guidance

16.3.1 There is no legislation or policy specifically directing the assessment of cumulative effects within EIA, although guidance from the Planning Inspectorate[1] which is pertinent to Nationally Significant Infrastructure Projects in England and Wales has been followed where relevant in the assessment of in-combination effects. The approach to

[1] UK Government (2024) *Nationally Significant Infrastructure Projects: Advice on Cumulative Effects Assessment.* [Online] Available at: https://www.gov.uk/guidance/nationally-significant-infrastructure-projects-advice-on-cumulative-effects-assessment.

the assessment of interactive cumulative effects follows a qualitative assessment based on the previous project experience and professional judgement of the EIA project team.

Baseline Desk Based Research and Data Sources

16.3.2 For both the in-combination and interactive effects assessments, the information presented in this chapter draws from the technical chapters in **Volume 2, Chapters 7-15**.

16.3.3 The in-combination effects assessment principally drew from the predicted residual effects for each topic. Each of **Volume 2, Chapters 7-15** evaluated the potential for significant cumulative effects with the identified reasonably foreseeable developments, with reference to the sensitivity of relevant baseline receptors. Information about the potential effects of the reasonably foreseeable developments has been obtained from a review of publicly available sources such as applicable EIARs and EIA Scoping Reports, or from information provided by SSEN Transmission in relation to other planned electricity transmission projects.

16.3.4 The interactive effects assessment used information from each of the **Volume 2, Chapters 7-15** relating to baseline receptors and their sensitivity, together with the predicted likely effects of the Proposed Development, to scope a series of key receptor groups which formed the focus of the assessment.

Consultation

16.3.5 The approach to the cumulative assessment took account of relevant feedback from the consultation process, in particular the EIA Scoping Opinion (and supporting responses from consultees). The key points raised by consultees in relation to scoping the EIA's cumulative assessment are summarised in **Table 16.1: Summary of Consultation Related to the Assessment of Cumulative Effects** with a brief summary of how they have been addressed within the assessment reported in this chapter.

Table 16.1: Summary of Consultation Related to the Assessment of Cumulative Effects

Organisation and Date	Feedback Provided	Response to Feedback
Royal Society for the Protection of Birds Scotland (RSPB) Corridor / Route Consultation Response 14 June 2023	Requested that the cumulative and in-combination impacts of existing OHLs, including any OHLs to be decommissioned should also be included in any assessment, in addition to operational and in-planning wind farms and other projects.	The main assessment of the Proposed Development includes consideration of the existing baseline which includes existing OHLs, existing operational wind farms and other existing development. The cumulative in-combination assessment of the Proposed Development considers other future SSEN Transmission projects (intra and inter developments) as well as other known third party developments in the planning system.
Historic Environment Scotland (HES) Corridor / Route Consultation Response 28 July 2023	HES noted that it will be important to assess the cumulative impacts of the proposals in combination with the existing OHLs in the vicinity any other associated infrastructure such as the required substations.	The main assessment of the Proposed Development includes consideration of the existing baseline which includes existing OHLs, existing operational wind farms and other existing development. The cumulative in-combination assessment of the Proposed Development considers other future SSEN Transmission projects (intra and inter development) as well as other known third party developments in the planning system.
Angus Council Viewpoint Consultation 02 May 2024	With regards to the Landscape and Visual Impact Assessment (LVIA) Study Area, the Council noted that the proposed 3 km wide offset either side of the OHL appeared to be relatively modest for structures of this height and highlighted concerns that significant effects may occur beyond 3 km. Angus Council requested that the study area more generally should be increased to 5 km either side of the proposed OHL although noted that more distant viewpoints of up to 5 km will be	The LVIA in **Volume 2, Chapter 9: Landscape and Visual Amenity** considered a 5 km buffer around the Proposed Development for the LVIA cumulative assessment. Further details are provided in **Volume 2, Chapter 9: Landscape and Visual Amenity.** Angus Council was consulted on the LVIA viewpoints (VPs).

Organisation and Date	Feedback Provided	Response to Feedback
	included where the assessor considers visual effects to arise beyond the 3 km area. Angus Council also requested for the cumulative LVIA VPs to be agreed with the Council.	
Crathes Drumoak and Durris Community Council (CDDCC) Scoping Response 08 October 2024	CDDCC stated that contributory impacts of the same project should be included in the cumulative impact assessment regardless of the stage of construction, otherwise the overall visual and other impacts cannot be properly assessed. CDDCC note that although phases of a project can be in different stages of development, it does not negate the impact of the entire project.	The cumulative in-combination assessment considers other future SSEN Transmission developments (inter and intra developments) as well as other known third party developments in the planning system.
Aberlemno and District Community Council Scoping Opinion 9 October 2024	Requested that the assessment should include cumulative impact of existing and proposed energy infrastructure and ancillary works.	The main assessment of the Proposed Development includes consideration of the existing baseline which includes existing OHLs, existing operational wind farms and other existing development. The cumulative in-combination assessment of the Proposed Development considers other future SSEN Transmission projects (intra and inter developments) as well as other known third party developments in the planning system.
Scottish Forestry Scoping Opinion 9 October 2024	Requested that the potential cumulative impact of the Proposed Development in respect to the local and regional forestry context is considered. This should include consideration of the potential cumulative impact of proposed woodland removal, when considering existing development in the surrounding woodland.	**Volume 2, Chapter 8: Forestry** considers the potential cumulative impact of the Proposed Development in respect to forestry.
Angus Council Scoping Opinion 9 October 2024	Angus Council noted it is willing to engage further in relation to viewpoint selection, including cumulative viewpoint selection. The Council noted that it was able to provide an updated list of cumulative developments (battery storage, solar and wind development) in proximity to the proposed OHL route and around the proposed new substation at Emmock.	Angus Council was consulted separately on the LVIA viewpoints (VPs). Angus Council provided information on the cumulative developments (battery storage, solar and wind development) in proximity to the proposed OHL route and around the proposed new substation at Emmock. These are included in the list of projects set out in **Table 16.2: List of Reasonably Foreseeable Future Developments - Intra and Inter Developments**.
Aberdeenshire Council Scoping Response 15 October 2024	The Council's Environmental Health Team noted that the indoor noise criterion would also need to consider the cumulative impact from other electrical infrastructure that is either under consideration in the planning system or already has consent. This would include Battery Energy Storage, substations, transformers etc.	The assessment of the Proposed Development includes consideration of the existing baseline which includes other infrastructure in operation. The cumulative in-combination assessment considers other future SSEN Transmission projects (intra and inter developments) as well as other known third party developments, particularly those related to electricity grid storage and transmission proposals which are in the planning system (see **Table 16.2: List of Reasonably Foreseeable Future Developments - Intra and Inter Developments**).
HES Scoping Opinion	HES highlighted the cultural heritage assets that should be considered as part of the cumulative assessment:	**Volume 2, Chapter 10: Cultural Heritage** considers the cultural heritage assets set out

Organisation and Date	Feedback Provided	Response to Feedback
23 October 2024	• Nether Auquhollie, inscribed stone 400 m NW of (SM983). Suggest that a visualisation (eg a wireframe) is produced to demonstrate this impact. • South Leylodge Steading, stone circle 110 m W of (SM12350). Advised that it may be useful to include a wireframe for this asset. • Barmekin of Echt, fort, Barmekin Hill (SM57). Note that a photomontage should be taken from the centre of the hillfort. • Phesdo House (LB9646). Noted that visualisations may be required for this asset.	by HES as part of the cumulative assessment.
HES Alignment Consultation Response 26 November 2024	HES requested that cumulative impacts (for example, the proposed substations at Emmock and Hurlie as well as the tie-ins and existing 132 kV and 275 kV OHL infrastructure) should also be considered when providing visualisations as there is also the potential for significant cumulative impacts from these proposals. HES raised specific concerns regarding cumulative effects of two scheduled monuments: • Section E, Nether Auquhollie, inscribed stone 400 m NW of (SM983). HES raised concerns about the additional cumulative impact on this asset given the presence of the existing OHL in the immediate vicinity of the monument, and suggested that a visualisation (for example, a wireframe) be produced to demonstrate this impact and identify whether any mitigation is required. • Section F, South Leylodge Steading, stone circle 110 m W of (SM12350). HES raised concerns about potential significant adverse impacts on the setting of this asset given it's proximity to the Proposed Development, including potential cumulative impacts with existing transmission infrastructure and recommend that mitigation measures be considered to reduce this impact.	The main assessment of the Proposed Development includes consideration of the existing baseline which includes other electrical infrastructure in operation. The cumulative in-combination assessment of the Proposed Development considers other future SSEN Transmission projects (inter and intra developments) as well as other known third party developments in the planning system. **Volume 2, Chapter 10: Cultural Heritage** considers the cultural heritage assets set out by HES as part of the cumulative assessment. Visualisations were prepared in line with HES' recommendations.
Energy Consents Unit (ECU) Scoping Opinion 19 December 2024	The Scottish Ministers recommend that decisions on bird surveys – species, methodology, vantage points, viewsheds and duration – site specific and cumulative – should be made following discussion between with RSPB and NatureScot.	RSPB and NatureScot provided feedback on bird surveys, species, methodology, and vantage points.

Approach to assessment of in-combination effects

16.3.6 The assessment of the in-combination effects considered two categories (intra and inter developments) of reasonably foreseeable future developments, and it has been approached in a tiered manner. This was to ensure that the SSEN Transmission projects which are associated with the Proposed Development, but for which consent is being sought separately, were first considered in-combination with the Proposed Development (the intra developments, ie the proposed Emmock and Hurlie substations), prior to consideration alongside the other developments (the inter developments, including other SSEN Transmission developments and third party developments).

16.3.7 Identification of the reasonably foreseeable future developments commenced with a review of the likely zones of influence of the Proposed Development in relation to key sensitive receptors and the likely significant effects of the proposals for each topic-specific assessment. This was initially undertaken within a search area of approximately 10 km from the centre of the Proposed Development which was considered to be a reasonable maximum zone of influence based on the indicative Study Areas for potential effects on designated ecological sites, including those for potential effects on qualifying bird species for Special Protection Areas (SPAs). The reasonably foreseeable development proposals identified as being consented but either under or pending construction, in planning (including EIA Screening and EIA Scoping opinion requests and statutory consultation) and those proposals known to SSEN Transmission within this initial search area were compiled into a long list of potential projects to be included in the cumulative assessment.

16.3.8 This search area was subsequently refined on the basis of the likely significant cumulative effects identified at the EIA scoping stage and as reported in the EIA Scoping Report. Developments considered in the cumulative assessment include all reasonably foreseeable developments within 3 km of the Proposed Development, following a review of the potential for significant environmental effects from the Proposed Development taking account of committed mitigation. In addition, for the purposes of Landscape and Visual Impact Assessment (LVIA), projects including tall infrastructure (ie wind farms and OHLs) have been included where these would be within 5 km of the Proposed Alignment. This wider extent of 5 km was also consistent with the extent of the proposed LVIA study area drawing from review of the initial Zone of Theoretical Visibility (ZTV) and which captured the majority of Study Areas for other EIA disciplines, taking account of the nature of both the Proposed Development and intra developments (Emmock and Hurlie substations) and the receiving environment.

16.3.9 The following criteria were used to identify the projects from the long list that were more likely to have potentially significant environmental effects in their own right and therefore greater potential to result in significant cumulative effects in combination with those predicted for the Proposed Development:

- development proposals of more than local development (ie national or major development[2]); and/or
- development proposals of local scale where EIA is required, or where there is considered to be potential for significant effects on key receptors, and which are located within 2 km of the Proposed Development; and where:
  - planning applications (or equivalent consent applications under other consenting regimes) have been submitted but not yet determined;
  - or potential applications at the EIA screening, EIA scoping or statutory consultation stage; or
  - where development consents have been granted and that are either under or pending construction at the time of the assessment[3].

16.3.10 The schedule of potential reasonably foreseeable developments was completed at the end of May 2025 to provide an appropriate cut-off for the subsequent assessment and reporting of the predicted effects of the Proposed Development in this EIAR. The local planning authorities were consulted on the future developments which should be used in the cumulative assessment and these are reflected in **Table 16.2: List of Reasonably Foreseeable Future Developments - Intra and Inter Developments**. Information on the reported environmental effects of each development shortlisted for cumulative assessment, where available, was then collated by the EIA project team and provided to each topic specialist. Development proposals which were under construction at the time of carrying out the assessment were considered in the main assessment as part of the future EIA baseline, and not as intra or inter developments.

16.3.11 The list of reasonably foreseeable future developments that was identified is presented in **Table 16.2: List of Reasonably Foreseeable Future Developments - Intra and Inter Developments.** The table is split into two categories of projects, 'intra' developments and 'inter' developments. The intra developments comprise the two SSEN Transmission substation projects (Emmock and Hurlie substations) which are associated with the Proposed

[2] Including those set out in *The Town and Country Planning (Hierarchy of Developments) (Scotland) Regulations 2009*. [Online] Available at: https://www.legislation.gov.uk/ssi/2009/51/contents/made

[3] Developments which had been constructed at the time of the assessment are excluded from the cumulative assessment as they are deemed to be part of the baseline environment.

Development and the inter developments comprise other reasonably foreseeable developments (including electricity transmission developments known to SSEN Transmission and other third-party development proposals meeting the above criteria). In addition, **Table 16.2: List of Reasonably Foreseeable Future Developments - Intra and Inter Developments** identifies with a star (*) the projects that were assessed for in-combination effects for the two intra developments in their respective EIARs. The reasonably foreseeable future developments set out in **Table 16.2: List of Reasonably Foreseeable Future Developments - Intra and Inter Developments** are shown in **Volume 3, Figures 5.1 to 5.6: Cumulative Developments.**

Table 16.2: List of Reasonably Foreseeable Future Developments - Intra and Inter Developments

OHL Section	Reasonably Foreseeable Development Name	Link to Project Information
Intra (Associated) Developments		
A	Emmock 400 kV substation SSEN Transmission Development	https://planning.angus.gov.uk/online-applications/caseDetails.do?caseType=Application&keyVal=SN6VOFCFMUA00
E	Hurlie 400 kV substation SSEN Transmission Development	https://upa.aberdeenshire.gov.uk/online-applications/caseDetails.do?caseType=Application&keyVal=SNUVKWCAJ2G00
Inter Developments (Other SSEN Transmission and Third Party Developments)		
A	Emmock and Tealing Overhead Line Tie-ins and Tie-backs*	https://www.energyconsents.scot/ApplicationDetails.aspx?cr=ECU00005204
A	Alyth to Tealing 275 kV OHL Upgrade (to 400 kV)*	https://www.energyconsents.scot/ApplicationDetails.aspx?cr=ECU00005167
A	Tealing to Westfield 275 kV OHL Upgrade (to 400 kV)*	https://www.energyconsents.scot/ApplicationDetails.aspx?cr=ECU00005168
A	Fithie Energy Park*	https://www.energyconsents.scot/ApplicationDetails.aspx?cr=ECU00005034
A	Balnuith Battery Energy Storage System (BESS)*	https://www.energyconsents.scot/ApplicationDetails.aspx?cr=ECU00004887
A	Myreton BESS*	https://www.energyconsents.scot/ApplicationDetails.aspx?cr=ECU00005053
A	Ark Hill Wind Farm Extension	https://planning.angus.gov.uk/online-applications/applicationDetails.do?activeTab=documents&keyVal=R04VKBCFFLH00
A	Cossans Solar and Battery Energy Storage System (BESS)	https://www.energyconsents.scot/ApplicationDetails.aspx?cr=ECU00005213
C	Glendye Wind Farm	https://www.dpea.scotland.gov.uk/CaseDetails.aspx?id=121949&T=66
C	Laurencekirk Residential Development	https://upa.aberdeenshire.gov.uk/online-applications/applicationDetails.do?keyVal=RSYGBLCAGOE00&activeTab=summary
D	Glendye Wind Farm Grid Connection*	https://www.energyconsents.scot/ApplicationDetails.aspx?cr=ECU00005197
D	Fetteresso Wind Farm Grid Connection and Access Corridor*	https://www.energyconsents.scot/ApplicationDetails.aspx?cr=ECU00001851&T=5
D	Network Rail Drumlithie*	https://www.ssen-transmission.co.uk/globalassets/projects/hurlie-400kv-substation-downloads/june-2024-event-docs/future-works_hurlie-and-fetteresso-substations-supplementary-hand-out.pdf
D	Fiddes 132 kV Grid Replacement*	
D	Glenbervie BESS*	https://upa.aberdeenshire.gov.uk/online-applications/applicationDetails.do?activeTab=map&keyVal=SOSXFBCA04U00
D	Quithel BESS*	https://www.energyconsents.scot/ApplicationDetails.aspx?cr=ECU00005005
D/E	Onshore Transmission Infrastructure for Bowdun Offshore Wind Farm*	https://upa.aberdeenshire.gov.uk/online-applications/applicationDetails.do?activeTab=documents&keyVal=SJC004CA04U00

OHL Section	Reasonably Foreseeable Development Name	Link to Project Information
E	SSEN Transmission offshore grids project*(LVIA only)	https://www.ssen-transmission.co.uk/globalassets/projects/hurlie-400kv-substation-downloads/june-2024-event-docs/future-works_hurlie-and-fetteresso-substations-supplementary-hand-out.pdf
E	Possible Future Wind Farm Connection*(LVIA only)	
E	Craigneil Wind Farm*	https://www.dpea.scotland.gov.uk/CaseDetails.aspx?id=121951
F	Kintore to Craigiebuckler 132 kV OHL (existing) realignment (undergrounding)	https://www.ssen-transmission.co.uk/globalassets/projects/kintore---tealing-400kv-ohl-downloads/februarymarch-2025-final-pre-application-consultation-pac-events/proposed-alignment-consultation-booklet.pdf
F	Hill of Fare Wind Farm	https://upa.aberdeenshire.gov.uk/online-applications/applicationDetails.do?activeTab=map&keyVal=S4S086CA04U00
F	South Leylodge Farm BESS	https://upa.aberdeenshire.gov.uk/online-applications/applicationDetails.do?activeTab=summary&keyVal=RIKGEZCAM7X00
F	Kintore Substation BESS	https://upa.aberdeenshire.gov.uk/online-applications/applicationDetails.do?activeTab=map&keyVal=S5NMPECAM7W00
F	Kintore Hydrogen Production Facility	https://upa.aberdeenshire.gov.uk/online-applications/applicationDetails.do?activeTab=documents&keyVal=SKMFWMCALNV00
F	Kintore South Solar Array and BESS	https://www.energyconsents.scot/ApplicationDetails.aspx?cr=ECU00005245
F	Womblehill Farm BESS	https://upa.aberdeenshire.gov.uk/online-applications/caseDetails.do?caseType=Application&keyVal=SMY4C5CA2SP00

* These projects were assessed cumulatively for the intra developments EIAs ie the EIARs for the two substations associated with the Proposed Development.

16.3.12 All EIA technical teams assessed the intra developments set out in **Table 16.2: List of Reasonably Foreseeable Future Developments - Intra and Inter Developments** in combination with the Proposed Development to identify potential significant cumulative effects alongside Emmock and Hurlie substations. All EIA technical teams then assessed the cumulative effects of the Proposed Development and the intra developments with the inter developments. Further to this each EIA technical team determined which of the other inter developments were relevant for consideration for their EIA discipline and the selected projects were captured in the assessment. This allowed topic teams to screen out some of the remaining inter developments where it was clear that there would not be potential for significant cumulative effects.

16.3.13 The assessments drew on relevant EIA practice drawing on discipline-specific guidance in relation to cumulative effects assessment where this is available and considered to represent best practice for each EIA topic. The assessments took account of the predicted residual effects of the assessment of the Proposed Development (ie the effects predicted following consideration of embedded, applied and any additional mitigation) in combination with each reasonably foreseeable development. The level of detail of the assessments was also necessarily guided by the level of information available for each future development set out in **Table 16.2: List of Reasonably Foreseeable Future Developments - Intra and Inter Developments** and the degree of certainty around its likelihood of being consented and the timescales for its construction. Assessments were completed for both the construction stage and for operation of the Proposed Development including effects arising from its permanent presence in the landscape.

16.3.14 It should be noted that slightly different approaches were taken to defining developments and their proximity to the Proposed Development for the cumulative landscape and visual impact assessment based on established practices (see **Volume 2, Chapter 9: Landscape and Visual Amenity**) as well as the cumulative ornithology assessment (see **Volume 2, Chapter 12: Ornithology**). These assessments have also considered the potential for significant effects of the Proposed Development to distances in excess of the 3 km study area generally assumed for most assessments. Where relevant environmental effects were predicted to be significant in these wider assessment areas, they have been taken into account in this cumulative assessment and information provided in the reporting of the cumulative assessment in the respective chapters.

16.3.15 Each of the EIA technical **Volume 2, Chapters 7-15** presents a section on cumulative assessment including two standardised tables to present the cumulative in-combination assessment findings in a consistent manner for the intra developments, then for the relevant inter developments, along with a narrative discussing the overall findings for that topic. The in-combination assessments in each of the **Volume 2, Chapters 7-15** were primarily based on an informed qualitative approach drawing on professional judgement. This chapter presents a table (**Table 16.4: Likely Significant Residual In-combination Effects**) indicating where a significant in-combination effect has been predicted when the Proposed Development is considered alongside the intra and inter developments for each EIA topic. For clarity the following sets out how each technical team undertook the in-combination assessment:

- Chapter 7: Land Use and Prime Agricultural Land – the red line boundaries (where available) of the intra and inter developments were reviewed against the prime agricultural land mapping data and a worst case approximation for land-take from PAL was estimated for each and these were added together, and a judgment taken as to if that total amount might exceed the threshold used in this EIAR for a Significant effect. Construction effects only considered. No intra or inter developments are close to recreational aviation or fishery receptors.
- Chapter 8: Forestry – the published information for each of the intra and inter developments was used to identify the stated likely worst case scenario loss of forestry / woodland for each development and that was considered in combination with the Proposed Development, and a qualitative determination made as to the Significance of the combined effect.
- Chapter 9: Landscape and Visual Amenity – the red line boundaries and available details of the intra and inter developments (including submitted LVIA chapters where available) were reviewed to inform where likely significant effects on landscape and visual receptors may be experienced. In the absence of published assessments, high level assessments have been undertaken. In considering the cumulative interactions between other developments and the Proposed Development, consideration was given to the pattern of other developments, the distance between them and the Proposed Development, the position of the developments in

the view and landscape, and the relationship between the scale of the developments. These considerations were taken into account in forming a judgement on the likely cumulative effects on landscape and visual receptors. The LVIA criteria for categorising the level of Significance of an effect was applied (ie Major, Moderate, Minor, Negligible etc.).

- Chapter 10: Cultural Heritage – the assessment of cumulative effects on heritage assets was based upon consideration of the effects of the Proposed Development on the heritage assets that were identified within the inner cultural heritage Study Area and on the settings of assets with statutory and non-statutory designations within the outer cultural heritage Study Area (which includes the inner study area), in addition to the likely effects of the intra and inter developments. The assessment took into account the nature and relative scales of the various intra and inter development proposals, their distance from the affected assets, and the potential degree of visibility from the various developments. Where possible the Cultural Heritage assessment criteria for categorising the level of Significance of an effect was applied (ie Major, Moderate, Minor, Negligible etc.).
- Chapter 11: Ecology – the approach to the cumulative ecological impact assessment follows the methodology outlined in Ecology Impact Assessment standard industry, whereby cumulative impacts and effects may be additive/incremental or associated/connected. Consideration was therefore given to the radius that should be applied to the ecology cumulative assessment, a 3 km search area was considered appropriate for the cumulative assessment. The assessment was based on the publicly available information and professional judgment based on knowledge of the baseline environment and the type, scale, location and construction programme of the other development, and pathways to ecological features, when considered alongside the Proposed Development.
- Chapter 12: Ornithology – predicted adverse effects on birds arising from the construction and operation of the Proposed Development have the potential to contribute to cumulative effects upon wider regional populations. In-isolation effects on birds, ie those arising from the Proposed Development alone, were considered alongside predicted effects from the intra and inter developments as far as possible based on the data available. The assessment considered the NatureScot guidance for assessing cumulative effects of wind farms which recommends using an additive approach to sum predicted effects from relevant projects arising from displacement, collision risk and barrier effects. Cumulative assessments were undertaken on bird species that have undergone detailed assessment. Projects chosen for inclusion to determine in-combination effects for the identified Special Protection Areas (SPAs) were confined to wind farms and to OHL developments.
- Chapter 13: Hydrology, Hydrogeology, Geology and Soils – the in-combination assessment was based on consideration of the predicted effects of the Proposed Development on surface and ground water quality and quantity, PWS, GWDTEs and effects on runoff rates and flood risk during construction and operation alongside the intra and inter developments. The assessment was based on the published data available and a judgment based on the nature of the intra and inter developments, their scale, their location in relation to known sensitive receptors and river catchments and known construction programme details.
- Chapter 14: Traffic and Transport – the in-combination assessment considered construction effects only, in line with other such developments, as no significant operational traffic and transport effects are predicted from the Proposed Development. Traffic flows from both intra and inter developments can only be included in the baseline when a detailed transport assessment has been undertaken and is publicly available. A traffic and transport ‘sensitivity review’, ie a review of possible in-combination effects on the traffic and transport sensitive receptors, was undertaken alongside the relevant intra development and inter developments based on the information available; a commentary is provided on the likelihood of in-combination significant effects based on professional judgement. The inter developments were selected based on their location, scale, construction programme and likelihood of significant construction traffic effects.
- Chapter 15: Noise and Vibration – the in-combination assessment considered potential cumulative noise and vibration effects from the Proposed Development alongside intra and inter developments. Construction noise inputs included traffic and transport contributions, with impacts on nearby noise-sensitive receptors (NSRs) assessed using worst-case assumptions. Qualitative assessments of other developments were informed by available data and professional judgment, accounting for weather conditions and receptor proximity. Vibration

effects were considered negligible due to the nature of works. Operational noise from corona discharge was assessed cumulatively where relevant infrastructure would be situated in relevant proximity. The Noise and Vibration assessment criteria for magnitude of effect and for categorising the level of Significance of an effect was applied (ie Major, Moderate, Minor, Negligible etc.).

- **Table 16.4: Likely Significant Residual In-combination Effects** indicates with a **Blue** box the potential significant in-combination effects and the project phases for the predicted effects ie during **Construction**, **Operation** or **Both**. This provides an overview of where multiple in-combination effects may occur and **Section 16.4** of this chapter summarises the findings for each EIA topic and sets out if the combined effects are likely to be significant in terms of the EIA Regulations.

Approach to Assessment of Interactive Effects

16.3.16 For the interactive effects the assessment considered the combined or synergistic effects caused by the combination of a number of different predicted adverse effects (such as noise, visual etc) from the Proposed Development on a particular single, or group of, receptors (such as residential properties or areas of importance for cultural and natural heritage) taking into consideration the construction and operational phases of the Proposed Development. The significance of such interactive effects may collectively be greater than the individual effects predicted on the key receptor groups.

16.3.17 The approach to the assessment of the interactive effects considered the changes in baseline conditions at common sensitive receptors (ie those receptors predicted to be affected by impacts that have been assessed by more than one EIA topic) due to the Proposed Development.

16.3.18 This chapter presents a table (**Table 16.5: Identification of Potential Interactive Effects**) which sets out a schedule of key receptors considered to be potentially vulnerable to interactive effects which were identified through a review of the relevant baseline information by each of the EIA topic teams, the EIA management team and discussion with the technical leads. The key receptors in **Table 16.5: Identification of Potential Interactive Effects** are grouped under four categories as follows:

- People in their homes and communities forming their immediate local environment.
- Areas accessed for greenspace, recreation and wider enjoyment of the countryside.
- Areas of significance for culture, heritage, history and education.
- Areas of intrinsic importance for natural heritage.

16.3.19 Within each of the four groupings, a number of sub-groups of receptors are also presented in the table to illustrate the key receptors which are considered to be vulnerable to interactive cumulative effects across people / communities and natural and cultural heritage.

16.3.20 Only residual effects were considered in the interactive effects assessment ie where there was a common sensitive receptor which is predicted to be affected in the assessments undertaken for different EIA topics following consideration of embedded, applied and any additional mitigation.

16.3.21 Consideration was also given to the findings of the in-combination cumulative effects assessment, which is summarised in **Table 16.4: Likely Significant Residual In-combination Effects**, particularly where significant in-combination effects were predicted which had the potential to intensify impacts on the receptor groups predicted to be susceptible to multiple effects from the Proposed Development on its own.

16.3.22 Cumulative interactive effects cannot be quantified or assessed in detail due to the differing nature of the topics and methodologies of the individual assessments and the scope for variability of responses from receptors to the identified effect interactions. Professional judgement has therefore been applied to the assessment involving the judgement of relevant EIA discipline leads where relevant and taking account of relevant good practice guidance where available and relevant to the assessment.

16.3.23 **Table 16.3: Significance Categories and Colour Coding used for Table 16.5** below sets out the categories used to indicate the residual effects predicted during construction or operation used in **Table 16.5: Identification of**

Potential Interactive Effects. **Table 16.5: Identification of Potential Interactive Effects** indicates the level of residual effect significance predicted for each of the identified groups of receptors in each of the technical chapters (**Volume 2, Chapters 7-15**). **Table 16.5: Identification of Potential Interactive Effects** also indicates where a potential significant interactive effect is considered likely which is indicated by a Blue box with an indication of whether the potential significant interactive effects are predicted to occur during construction or operation.

Table 16.3: Significance Categories and Colour Coding used for Table 16.5

	Significant Residual Effect
	Non-Significant Residual Effect
	Potential Significant Interactive Effect

16.3.24 Where a likely significant interactive effect was predicted on a receptor group further assessment was undertaken to inform a determination of whether residual effects would be predicted to be significant and, where required and possible, to set out additional mitigation to reduce such effects. The principal group considered likely to have significant adverse interactive effects was 'People in their homes and communities'. **Table 16.6: Predicted Interactive Effects on Residential Properties (Groups)** sets out the predicted interactive effects of the further assessment undertaken for this group by considering communities in geographical residential groupings. Commentary on the findings of this assessment and further assessment of effects on the 'Areas accessed for greenspace, recreation and wider enjoyment of the countryside' group are presented in **Section 16.5**.

Assumptions and Limitations

16.3.25 The following assumptions and limitations apply to the cumulative effects assessment:

- The cut-off date for gathering data about other potential future developments for the in-combination assessment was 30 May 2025. This was required to provide a 'settled' schedule of projects to be defined and passed to the EIA technical assessment teams to complete their cumulative assessments and incorporate the findings within this EIA Report.
- The in-combination assessment was based on published information which was available in the public domain at the time of the assessment plus details which were available to SSEN Transmission in relation to other electricity transmission projects known to them. This included information provided by the Local Planning Authorities.
- Only potential developments considered reasonably foreseeable have been included. Development proposals at the pre-application stage where a Proposal of Application Notice (PoAN) has been submitted are not included as they are not considered reasonably foreseeable. However, the assessment includes other electricity transmission projects known to SSEN Transmission, which are not yet the subject of an application or consent (but are foreseeable to the SSEN Transmission and relevant to the EIA).
- Both the in-combination and interactive effects assessments were informed qualitative assessments as they were limited to the level of information available relating to the other development projects and / or are considering different types of effects that cannot be quantifiably measured (eg landscape effects together with noise effects). Both assessments were based on professional judgement by assessors experienced in the assessment of environmental effects.
- Both the construction and operational phases were considered in the assessment of in-combination effects where the information was available, including project construction phasing; otherwise a 'worst case' scenario was assumed that construction may occur at the same time as the Proposed Development (particularly for larger scale projects likely to have lengthy construction programmes).
- No additional research, data collection or site visits were undertaken to inform the cumulative assessment.
- The cumulative assessment drew on existing assessments and, as such, inherits any limitations of the initial assessments that are described in each respective chapter in **Volume 2, Chapters 7-15.**

16.4 Predicted In-combination Effects

16.4.1 **Table 16.4: Likely Significant Residual In-combination Effects** sets out a summary of the likely significant residual in-combination effects which have been predicted for the Proposed Development with the other reasonably foreseeable developments following the tiered approach described in **Section 16.3: Assessment Methodology** (ie the intra developments, and then the inter developments). The reasonably foreseeable developments are set out in **Table 16.2: List of Reasonably Foreseeable Future Developments - Intra and Inter Developments** and shown in **Volume 3, Figures 5.1 to 5.6: Cumulative Developments.**

16.4.2 The relevant cumulative assessment sections of each topic-based chapters of the EIAR set out the detailed intra and inter-project assessments. The key findings are discussed below.

Intra (Associated) Developments

16.4.3 Landscape and visual in-combination effects were predicted when the Proposed Development was considered alongside the construction and operation of the intra developments, ie Emmock and Hurlie 400 kV substations, which are being developed by SSEN Transmission and which are associated with the Proposed Development. This is largely due to the scale of construction activities, and the overlap of the construction phases requiring concurrent activities to the northwest of Tealing Substation. During operation, the Proposed Development is expected to give rise to Significant cumulative landscape and visual effects largely due to the concentration of development to the northwest of the Tealing Substation, combined with the vertical prominence of the Proposed Development, and the spatial scale of Emmock Substation.

16.4.4 These in-combination landscape and visual effects would be **Significant**. See **Volume 2, Chapter 9: Landscape and Visual Amenity** for further details.

Inter Developments (Other SSEN Transmission and Third Party Developments)

16.4.5 When the Proposed Development and the intra developments were considered alongside the inter developments significant in-combination effects were predicted in relation to the following receptors:

- Land Use: prime agricultural land (PAL) – significant in-combination adverse effects on PAL were predicated when the Proposed Development was considered alongside the inter developments, as indicated in **Table 16.4: Likely Significant Residual In-combination Effects.** The development of all these projects, which include other transmission projects, windfarms and residential developments, would collectively result in a loss of PAL which is considered to be **Significant**. Such effects would occur during construction; they would be permanent and cannot be mitigated. See **Volume 2, Chapter 7: Land Use and Prime Agricultural Land** for further details.
- Forestry: woodland – significant in-combination effects on woodland were predicted when the Proposed Development was considered alongside the inter developments, as indicated in **Table 16.4: Likely Significant Residual In-combination Effects.** The development of all these projects, which includes other transmission projects, windfarms and Battery Energy Storage System (BESS) developments, together would result in the loss of woodland during the construction phases which would be **Significant.** It is expected that compensatory planting, which should be provided by each project individually, may in time replace woodland lost due to the construction of the future developments; although compensatory planting may not necessarily be provided in the vicinity of the development. See **Volume 2, Chapter 8: Forestry** for further details.
- Landscape and visual – significant in-combination effects on both landscape and visual receptors were predicted when the Proposed Development was considered alongside the inter developments, as indicated in **Table 16.4: Likely Significant Residual In-combination Effects.** The development of the projects indicated in **Table 16.4: Likely Significant Residual In-combination Effects** as having an in-combination effect would result in both construction and operation landscape and visual effects which would be **Significant**. It is expected that compensatory planting and screening, which should be provided by each project individually, may in time reduce some of the overall effects on the landscape and visual receptors from the construction and operation of the future developments, although compensatory planting may not necessarily be provided in the vicinity of the development. See **Volume 2, Chapter 9: Landscape and Visual Amenity** for further details.

- Cultural Heritage: Scheduled Monuments – the Proposed Development is predicted to give rise to significant operational cumulative effects when combined with the inter developments. Significant cumulative operational effects of **Moderate** significance are concluded on the setting of four Scheduled Monuments: Balkemback Cottage Stone Circle (SM 2868), St Orland's Stone (SM 90270), East Finnercy Cairn (SM 6067) and South Leylodge (SM 12350). A potential cumulative operational effect is also concluded on the setting of one additional Scheduled Monument, Clochanshiels Cairns, Housse and Field Systems (SM 4857) from the introduction of the proposed HVDC convertor stations for both the proposed Onshore Transmission for Bowdun offshore Wind Farm and the SSEN Transmission offshore grids project. The cumulative effect potentially arising on the setting of the Scheduled Monument where the Proposed Development and the HDVC convertor stations converge north of the proposed Hurlie substation. See **Volume 2, Chapter 10: Cultural Heritage** for further details.

Table 16.4: Likely Significant Residual In-combination Effects[4]

OHL Section	Project	Land Use and Prime Agricultural Land (Chapter 7)	Forestry (Chapter 8)	Landscape and Visual Amenity (Chapter 9) LVIA	Cultural Heritage (Chapter 10)	Ecology (Chapter 11)	Ornithology (Chapter 12)	Hydrology, Hydrogeology, Geology and Soils (Chapter 13)	Traffic and Transport (Chapter 14)	Noise and Vibration (Chapter 15)
Intra (Associated) Developments										
A	Emmock 400 kV substation SSEN Transmission Development	N	N	Construction Landscape receptors (LCTs 387 and 382) Visual receptor (VRA A6) Operation Landscape receptor (LCT 387) Visual receptors (VRA A6)	N	N	N	N	N	N
E	Hurlie 400 kV substation SSEN Transmission Development	N	N	Construction Landscape receptors (LCTs 24 and 29) Visual receptors to the east and southeast (VRAs D23, D26 and E2) Operation Landscape receptors (LCTs 29 and 24) Visual receptors to the east and	N	N	N	N	N	N

[4] Projects with an asterisk (*) are those that were also assessed cumulatively in the EIAs for the two intra developments (Emmock and Hurlie substations).

OHL Section	Project	Land Use and Prime Agricultural Land (Chapter 7)	Forestry (Chapter 8)	Landscape and Visual Amenity (Chapter 9) LVIA	Cultural Heritage (Chapter 10)	Ecology (Chapter 11)	Ornithology (Chapter 12)	Hydrology, Hydrogeology, Geology and Soils (Chapter 13)	Traffic and Transport (Chapter 14)	Noise and Vibration (Chapter 15)
				southeast (VRAs D23 and E2)						
Inter Developments (Other SSEN Transmission and Third Party Developments)										
A	Emmock and Tealing Overhead Line Tie-Ins and Tie-backs* SSEN Transmission Development	N	N	Construction Landscape receptors Visual receptors (VRAs A2, A3, A6, A9) Operation Landscape receptors (LCTs 382, 387) Visual receptors (VRAs A3, A6, A7)	Operation Balkemback Stone Circle (SM 2868)	N	N	N	N	N
A	Alyth to Tealing 275 kV OHL Upgrade (to 400 kV) * SSEN Transmission Development	N	N	N	N	N	N	N	N	N
A	Tealing to Westfield 275 kV OHL Upgrade (to 400 kV) * SSEN Transmission Development	N	N	N	N	N	N	N	N	N
A	Fithie Energy Park * Third Party Development	Construction Prime Agricultural Land (PAL)	N	Operation Landscape receptor (LCT 387) Visual receptors (VRA A2 and A3)	N	N	N	N	N/A	N

OHL Section	Project	Land Use and Prime Agricultural Land (Chapter 7)	Forestry (Chapter 8)	Landscape and Visual Amenity (Chapter 9) LVIA	Cultural Heritage (Chapter 10)	Ecology (Chapter 11)	Ornithology (Chapter 12)	Hydrology, Hydrogeology, Geology and Soils (Chapter 13)	Traffic and Transport (Chapter 14)	Noise and Vibration (Chapter 15)
A	Balnuith Battery Energy Storage System (BESS)* Third Party Development	N	N	Construction and Operation Landscape and visual receptors.to the south and southeast	N	N	N	N	N	N
A	Myreton BESS * Third Party Development	Construction Prime Agricultural Land (PAL)	Construction Woodland	Construction Landscape receptors to the south and southeast Operational Landscape receptors to the south and southeast Visual receptor (VRA A2)	N	N	N	N	N/A	N
A	Ark Hill Wind Farm Extension Third Party Development	N	N	N	N	N	N	N	N/A	N
A	Cossans Solar and BESS Third Party Development	Construction Prime Agricultural Land (PAL)	N	Construction Landscape receptors (LCT 384) where the Proposed Development passes through the Cossans site. Visual receptors around the Proposed Development	Operation St Orland's Stone (SM 90270)				N/A	

OHL Section	Project	Land Use and Prime Agricultural Land (Chapter 7)	Forestry (Chapter 8)	Landscape and Visual Amenity (Chapter 9) LVIA	Cultural Heritage (Chapter 10)	Ecology (Chapter 11)	Ornithology (Chapter 12)	Hydrology, Hydrogeology, Geology and Soils (Chapter 13)	Traffic and Transport (Chapter 14)	Noise and Vibration (Chapter 15)
				where it crosses through the Cossans site. Operation Landscape receptors (LCT 384) where the Proposed Development passes over the solar farm. Visual receptors around the Proposed Development where it crosses through the Cossans site.						
C	Glendye Wind Farm Third Party Development	Construction Prime Agricultural Land (PAL)	Construction Woodland	N/A	N	N	N	N	N	N
D	Laurencekirk Residential Development Third Party Development	Construction Prime Agricultural Land (PAL)	N	N	N	N	N	N	N/A	N
D	Glendye Wind Farm Grid Connection * SSEN Transmission Development	N	Construction Woodland	N	N	N	N	N	N	N
D	Fetteresso Wind Farm Grid	N	Construction Woodland	N	N	N	N	N	N/A	N

OHL Section	Project	Land Use and Prime Agricultural Land (Chapter 7)	Forestry (Chapter 8)	Landscape and Visual Amenity (Chapter 9) LVIA	Cultural Heritage (Chapter 10)	Ecology (Chapter 11)	Ornithology (Chapter 12)	Hydrology, Hydrogeology, Geology and Soils (Chapter 13)	Traffic and Transport (Chapter 14)	Noise and Vibration (Chapter 15)
	Connection and Access Corridor * Third Party Development									
D	Glenbervie BESS * Third Party Development	Construction Prime Agricultural Land (PAL)	N	Construction Landscape receptor (LCT 24) Visual receptors (VRAs D22 and D24) Operation Landscape receptors (LCT 24) Visual receptors (VRAs D22 and D24)	N	N	N	N	N/A	N
D	Quithel BESS * Third Party Development	N	N	Construction Landscape receptor (LCT 24) Visual receptors (VRA D24) Operation Landscape receptor (LCT 24) Visual receptors (VRAs D23, D24 and D25)	N	N	N	N	N/A	N
D	Network Rail Drumlithie * SSEN Transmission reasonably	Construction Prime Agricultural Land (PAL)	Construction Woodland	Construction Landscape receptors (LCTs 24 and 29)	N	N	N	N	N/A	N

OHL Section	Project	Land Use and Prime Agricultural Land (Chapter 7)	Forestry (Chapter 8)	Landscape and Visual Amenity (Chapter 9) LVIA	Cultural Heritage (Chapter 10)	Ecology (Chapter 11)	Ornithology (Chapter 12)	Hydrology, Hydrogeology, Geology and Soils (Chapter 13)	Traffic and Transport (Chapter 14)	Noise and Vibration (Chapter 15)
	foreseeable development			Visual receptors (VRAs D25, D26 and E2)						
D	Fiddes 132 kV Grid Replacement * SSEN Transmission reasonably foreseeable development	Construction Prime Agricultural Land (PAL)	Construction Woodland	Construction Landscape receptors (LCTs 24 and 29) Visual receptors (VRAs D23 and D25) Operation Landscape receptors (LCT 24 and 29) Visual receptors (VRAs D23 and D25)	N	N	N	N	N/A	N
E	SSEN Transmission offshore grids project * SSEN Transmission reasonably foreseeable development	N	Construction Woodland	Construction Landscape receptors (LCT 24 and 29) Visual receptors (VRAs D26, E2 and E3) Operation Landscape receptors (LCT 29) Visual receptors (VRAs E2 and E3)	Operation Clochanshiels, Cairns, Houses and Feld Systems (SM 4857)	N	N	N	N/A	N
E	Possible Future Wind Farm Connection *	N	Construction Woodland	Construction Landscape receptor (LCT 29)	N	N	N	N	N/A	N

OHL Section	Project	Land Use and Prime Agricultural Land (Chapter 7)	Forestry (Chapter 8)	Landscape and Visual Amenity (Chapter 9) LVIA	Cultural Heritage (Chapter 10)	Ecology (Chapter 11)	Ornithology (Chapter 12)	Hydrology, Hydrogeology, Geology and Soils (Chapter 13)	Traffic and Transport (Chapter 14)	Noise and Vibration (Chapter 15)
	SSEN Transmission reasonably foreseeable development			Visual receptors (VRAs E1, E5 and E6, and Fetteresso Forest) Operation Landscape receptor (LCT 29) Visual receptors (VRAs E1, E5 and E6)						
D/E	Onshore Transmission Infrastructure for Bowdun Offshore Wind Farm* Third Party Development	Construction Prime Agricultural Land (PAL)	Construction Woodland	Construction Landscape receptors (LCTs 24 and 29) Visual receptors (VRAs D23, D25 and E2) Operation Landscape receptor (LCT 29) Visual receptors (VRAs E2 and E3)	Operation Clochanshiels, Cairns, Houses and Feld Systems (SM 4857)	N	N	N	N/A	N
E	Craigneil Wind Farm* Third Party Development	N	Construction Woodland	Construction Landscape receptor (LCT 29) Visual receptors VRAs E2, E3, E4 and E5) Operation Landscape receptors (LCT 29)	N	N	N	N	N	N

OHL Section	Project	Land Use and Prime Agricultural Land (Chapter 7)	Forestry (Chapter 8)	Landscape and Visual Amenity (Chapter 9) LVIA	Cultural Heritage (Chapter 10)	Ecology (Chapter 11)	Ornithology (Chapter 12)	Hydrology, Hydrogeology, Geology and Soils (Chapter 13)	Traffic and Transport (Chapter 14)	Noise and Vibration (Chapter 15)
				Visual receptors (VRAs E2, E3, E4, E5 and E6)						
F	Kintore to Craigiebuckler 132 kV OHL (existing) realignment (undergrounding) SSEN Transmission reasonably foreseeable development	N	N	Construction Landscape receptors (LCT 26) Visual receptors (VRAs F30, F32 and F33)	N	N	N	N	N/A	N
F	Hill of Fare Wind Farm Third Party Development	N	Construction Woodland	Construction Landscape receptors (LCT 28) Visual receptors (F16) Operation Landscape receptors (LCT26 and LCT 28) Visual receptors (F10, F11, F16, F17, F21 and F23)	Operation East Finncery Cairn (SM 6076)	N	N	N	N/A	N
F	South Leylodge Farm BESS Third Party Development	N	N	Construction Landscape receptors (LCT 26) Visual receptors (VRAs F30 and F33) Operation Landscape receptors (LCT 26)	N	N	N	N	N	N

OHL Section	Project	Land Use and Prime Agricultural Land (Chapter 7)	Forestry (Chapter 8)	Landscape and Visual Amenity (Chapter 9) LVIA	Cultural Heritage (Chapter 10)	Ecology (Chapter 11)	Ornithology (Chapter 12)	Hydrology, Hydrogeology, Geology and Soils (Chapter 13)	Traffic and Transport (Chapter 14)	Noise and Vibration (Chapter 15)
				Visual receptors (VRAs F29, F30 and F33)						
F	Kintore Substation BESS Third Party Development	N	N	Construction Landscape receptors (LCT 26) Visual receptors (VRAs F30, F33 and F35) Operation Landscape receptors (LCT 26) Visual receptors (VRAs F30 and F33)	N	N	N	N	N	N
F	Kintore Hydrogen Production Facility Third Party Development	N	N	Construction Landscape receptors (LCT 26) Visual receptors (VRAs F29, F30, F32, F33 and F35) Operation Landscape receptors (LCT 26) Visual receptors (VRAs F29, F30, F32 and F33)	Operation South Leylodge Stone Circle (SM 12350)	N	N	N	N	N
F	Kintore South Solar Array and BESS	N	N	Construction Landscape receptors (LCT 26)	N	N	N	N	N/A	N

OHL Section	Project	Land Use and Prime Agricultural Land (Chapter 7)	Forestry (Chapter 8)	Landscape and Visual Amenity (Chapter 9) LVIA	Cultural Heritage (Chapter 10)	Ecology (Chapter 11)	Ornithology (Chapter 12)	Hydrology, Hydrogeology, Geology and Soils (Chapter 13)	Traffic and Transport (Chapter 14)	Noise and Vibration (Chapter 15)
	Third Party Development			Visual receptors (VRAs F31, F32 and F33) Operation Landscape receptors (LCT 26) Visual receptors (VRAs F30, F31, F32 and F33)						
F	Womblehill Farm BESS Third Party Development	N	N	Construction Landscape receptors (LCT 26) Visual receptors (VRAs F32 and F33) Operation Landscape receptors (LCT 26) Visual receptors (VRAs F32 and F33)	N	N	N	N	N/A	N

Key:

	Predicted significant in-combination effect with an indication of whether the in-combination effect is during construction, operation or both.

16.5 Predicted Interactive Effects

16.5.1 The list of key receptor groups considered to be susceptible to interactive effects (as identified in **Section 16.1**) was defined by the EIA discipline and project management teams based on the conclusions of **Volume 2, Chapters 7-15** and the team's collective understanding of baseline conditions and receptors. **Table 16.5: Identification of Potential Interactive Effects** shows the identified key receptor groups and the residual (significant and non-significant) environmental effects predicted in each of the EIAR **Volume 2, Chapters 7-15**. From **Table 16.5: Identification of Potential Interactive Effects** it can be identified which receptor groups may experience potential interactive effects and these are discussed below together with the findings of further assessment undertaken for potentially significant interactive effects. Where relevant, interactive effects were considered alongside the in-combination effects following the initial assessment.

People in their Homes and Communities / Local Environment

Residential Properties (or Groups)

16.5.2 **Table 16.5: Identification of Potential Interactive Effects** indicates that some residential properties are likely to experience adverse interactive cumulative effects from the Proposed Development particularly during the construction phase from cumulative noise, traffic as well as visual effects.

16.5.3 The mitigation measures set out in **Volume 2, Chapter 9: Landscape and Visual Amenity**, **Chapter 14: Traffic and Transport**, and **Chapter 15: Noise and Vibration** will be implemented during construction, however the mitigation measures are unlikely to eliminate all adverse effects and some residential properties are predicted to experience residual effects and possibly interactive cumulative effects from un-mitigatable visual, noise or traffic disturbance which together may be experienced as significant. **Table 16.5: Identification of Potential Interactive Effects** concludes by indicating that further assessment is required to identify which residential properties, or groups of properties, may experience interactive effects and whether these are predicted to be significant.

16.5.4 Consequently, **Table 16.6: Predicted Interactive Effects on Residential Properties (Groups)** sets out the potential interactive effects which have been considered on a series of residential receptor property groups which have been aligned with the Visual Rector Areas (VRAs). These VRAs were defined for geographical receptor groupings in the visual impact assessment presented in **Volume 2, Chapter 9: Landscape and Visual Amenity**. These areas represent identified groups of properties at a small community scale and they have been used as a consistent basis for the assessment and reporting of interactive cumulative effects on residential receptors. The noise sensitive receptors (NSR) that **Volume 2, Chapter 15: Noise and Vibration** reports on have been aligned with the VRAs, and the roads identified in **Volume 2, Chapter 14: Traffic and Transport** that would be used during construction and which have been assessed have also been aligned with the VRAs to inform the assessment of effect interactions. **Volume 3, Figures 5.1 to 5.6: Cumulative Developments** show the residential property groupings (ie the VRAs), the NSRs and the roads used during construction along with the Proposed Development's LOD, construction boundary and key construction access routes spatially which allows for an overview of where possible interactive effects may be experienced.

16.5.5 **Table 16.6: Predicted Interactive Effects on Residential Properties (Groups)** and **Volume 3, Figures 5.1 to 5.6: Cumulative Developments** indicate that residential property groups closest to the Proposed Development's construction areas and access routes are likely to experience potentially significant interactive effects. The full construction programme will span up to five years and the effects from construction on local noise and traffic levels and visual amenity will vary throughout the programme depending on the construction phase, construction activity, time of year and even time of day. While it is acknowledged that significant interactive effects may be experienced by some residents these effects are likely to be intermittent and limited to periods of most intense activity. This is discussed further below.

16.5.6 Details of the construction phase and the indicative construction programme, which runs from 2026 to 2031, are described in **Volume 1, Chapter 3: Project Description.** High voltage OHL construction typically follows a standard sequence of events with the principal phases of work as follows:

- Phase 1 – enabling works;

- Phase 2 – construction works;
- Phase 3 – commissioning;
- Phase 4 – dismantling existing OHLs; and
- Phase 5 – reinstatement.

16.5.7 The cumulative interactive effects on residential receptors are likely to be most evident during Phase 1 and Phase 2 which are anticipated to span the period between late 2026 to mid-2030 (or up to approximately 3.5 years in total). Phase 1 enabling works includes the vegetation clearance and felling phase, the setting up of construction compounds and the creation of access tracks to OHL towers, while Phase 2 construction works includes tower foundation formation and construction and conductor stringing. Interactive effects are less likely to be significant during Phases 3, 4 and 5 which will involve less sustained and intensive construction activities and fewer vehicle movements than Phases 1 and 2.

16.5.8 The duration of each work activity at any single location would most likely span a number of months and within this timescale activities would be discontinuous with some periods of concentrated construction work and associated traffic movements and some periods of less intensive activity. Not all communities would be affected by all work activities but some would be affected by all of them particularly for those properties located within approximately 300 m of OHL tower sites and other areas of focused activities. Work activities would generally run in sequence but some may overlap which makes specific assessment of the duration of interactive effects imprecise and a generally worst case assessment approach is therefore reported here based on the predicted effects for the most susceptible properties within each geographic community. The construction activities that are considered most likely to result in the highest noise levels and associated disruption from vehicle movements would occur during Phase 1 and 2 comprising:

- clearance / felling;
- access / enabling works;
- piling / foundations; and
- dismantling.

16.5.9 The commentary on predicted interactive effects provided in **Table 16.6: Predicted Interactive Effects on Residential Properties (Groups)** for each residential group refers to these activities in qualifying the likely timescales over which significant effects are predicted. It is important to note that even the worst-case effects would not be predicted to take place continuously during the time periods when the above activities take place. It is predicted that the greatest potential for significant adverse interactive effects on residential receptors would occur when visual, noise and traffic-related environmental effects interact cumulatively.

16.5.10 The Principal Contractors' and SSEN Transmission's Environmental Managers and Environmental Clerks of Work (ECoWs) will play a key role in ensuring that the construction activities are undertaken and managed in line with the mitigation measures set out in this EIAR (a full schedule of mitigation is set out in **Volume 2, Chapter 17: Schedule of Mitigation**) and in particular the Construction Environmental Management Plan, Construction Noise Management Plan, and the Enhanced Construction Traffic Management Plan. Robust implementation of these measures will be important in reducing the extent and duration of potentially significant cumulative interactive effects on local communities.

16.5.11 Overall, given the scale and duration of the construction programme and the proximity of some residential properties to the Proposed Development's construction boundary (see **Volume 1, Chapter 3: Project Description** and **Volume 3, Figures: 3.1.1 to 3.1.29: Proposed Development for which Section 37 Consent *(Electricity Act, 1989)* is sought**) there is potential for construction phase interactive effects on the residential property groups set out in **Table 16.6: Predicted Interactive Effects on Residential Properties (Groups)** to be Significant, albeit for limited and discontinuous periods of time co-incident with the busiest phases of construction activity.

16.5.12 As shown in **Table 16.6: Predicted Interactive Effects on Residential Properties (Groups)** there are 33 communities where residential receptors are predicted to experience significant cumulative interactive *visual, noise and traffic* effects for some periods during the Phase 1 and 2 construction works. The locations where it is predicted

that some receptors within these communities would experience significant effects are listed below including the VRA reference number which can be identified on **Volume 3, Figures 5.1 to 5.6: Cumulative Developments**:

- Balkemback (A6);
- Prieston and Coldstream (A9);
- Plans of Thornton (A17);
- Mosside of Ballinshoe to Over Bow (B8);
- Redford to Woodside (B9);
- Blairyfeddon to Craigeassie (B12);
- Cairnhill (B16);
- Meikle Coull to Knowehead (B18)
- Balmadity to Blackhall (B28);
- Montboy to Mill of Cruick (B29);
- Belliehill to Balrownie (C2);
- Westside to Inveriscandye (C15);
- Capo Plantation (C16);
- Mains of Drumhendry (C19);
- North of Lady Jane's Plantation (C26);
- Inchgray Farm to Auchcairnie Croft (C27);
- Woods of Redhall / Nursery Burn (D7);
- North Blairs to Burnhead of Monboddo (D15);
- Newmill to Tannachie (D22);
- Quithel (D24);
- Elfhill (D25);
- Kirkton of Durris (E13);
- Quartains (F9);
- Hirn, Glashmore, and Rashenlochy (F10);
- Schoolhill (F11);
- Garlogie, Redhill, Benthoul, and Cairnie (F13);
- Landerberry, Milton of Finnercy, and Tillyhogle (F15);
- South Kirkton, Mill of Echt, and Tillioch (F17);
- Easter Culfosie, North Monecht, and Meanecht (F19);
- North Mains, Myriewell, Kirk Cottages and South Monecht (F20);
- Dunecht Village and surroundings (F25);
- Backhill of Glack to Leylodge (F30); and
- Leylodge and surroundings (F33).

16.5.13 **Table 16.6: Predicted Interactive Effects on Residential Properties (Groups)** also shows that 85 other communities would be predicted to experience significant cumulative interactive *visual and traffic* effects at some properties during the construction period, and three communities are predicted to experience significant cumulative interactive *visual and noise* effects.

16.5.14 Taking account of the findings of this assessment and the potential for significant adverse interactive effects, further mitigation has been considered by SSEN Transmission to minimise such effects as far as practicable. The additional mitigation and the predicted residual effects on residential receptors in communities close to the OHL are set out in **Section 16.6** below.

16.5.15 In addition, these interactive effects could potentially be exacerbated if the Proposed Development's construction programme coincides with the construction programmes of the intra developments and / or the inter developments considered in the in-combination assessment (and reported in **Section 16.4**). **Volume 3, Figures 5.1 to 5.6: Cumulative Developments** also show the location of the intra developments and inter developments. Again, the Principal contractor and SSEN Transmission project, environmental and community liaison managers will play a key role in ensuring that the construction activities are delivered robustly in line with the mitigation measures set out in this EIAR.

Private Water Supplies

16.5.16 No significant interactive effects are predicted in relation to private water supplies (PWS). The predicted effects on this receptor group are reported in **Section 13.6: Assessment of Likely Significant Effects – Construction** of **Chapter 13: Hydrology, Hydrogeology, Geology and Soils** and it is not considered that the impacts of OHL construction work would have further interactive effects on PWS.

Areas Accessed by Communities for Greenspace, Recreation and Wider Enjoyment of the Countryside

Parks, *O*pen *S*paces, *R*ecreation *A*reas

16.5.17 No significant interactive cumulative effects are predicted in relation to people undertaking informal recreation and access to areas such as parks, open spaces and other recreational areas in the vicinity of the OHL. Effects have been considered further in relation to people using recreational access routes close to the OHL alignment's construction (see below) where it would be more difficult for path users to avoid some interface with construction works.

Key Recreational Routes including Core Paths

16.5.18 **Table 16.5: Identification of Potential Interactive Effects** indicates that users of some sections of key recreational access routes and active travel routes (referred to here as recreational routes), including Core Paths, may experience adverse cumulative interactive effects from the Proposed Development during construction from visual amenity and traffic related environmental effects together with physical effects where the alignment of paths may need to be temporarily restricted with path diversions implemented. Some construction works would also generate noise which may further affect path users in proximity to infrastructure construction areas and / or access roads and tracks.

16.5.19 Details of the construction programme are described above (and in full in **Volume 1, Chapter 3: Project Description**) and the cumulative interactive effects on recreational routes are likely to be experienced during Phase 1 and 2 which is anticipated to occur between late 2026 to mid-2030. Phase 1 enabling works include the vegetation clearance and felling phase, the setting up of compounds and the creation of access tracks and Phase 2 works would require transport of plant and materials and construction activities around each OHL tower to prepare compounds, build foundations, assemble the tower structures and string conductors. Interactive effects on recreational routes are less likely during Phases 3, 4 and 5 which would involve less intensive and disruptive construction activities and fewer vehicle movements.

16.5.20 Mitigation measures set out in **Volume 2, Chapter 7: Land Use and Prime Agricultural Land**, **Chapter 9: Landscape and Visual Amenity** and **Chapter 14: Traffic and Transport** will be in place during construction including implementation of key measures from the Construction Environmental Management Plan, Enhanced Construction Traffic Management Plan and an Outdoor Access Management Plan (a full schedule of mitigation is set out in **Volume 2, Chapter 17: Schedule of Mitigation**). Effective implementation of these measures is expected to avoid or reduce much of the impact of construction disruption on recreational route users. However, some users of recreational routes may experience some temporary severance and re-routeing, delays, visual, noise and general amenity effects from construction disturbance when using what would ordinarily be tranquil routes / mode of travel. Examples of Core Paths that are likely to be crossed by the OHL include (see **Volume 5, Appendix 7.1: Outline Outdoor Access Management Plan**):

- Kirkton of Tealing to Balnuith Core Path;
- Kirkton of Auchterhouse to Balluderon Core Path;
- Prieston to Glen Ogilvie Core Path;

- Jericho Core Path;
- Drumgley to Glamis Station Core Path;
- Edzell to Westside Core Path;
- Fordoun: Monboddo Link Road; and
- National Cycle Network (NCN) Route 195 (known as the Deeside Way).

16.5.21 These effects would be limited spatially to the locations where the paths are proximate to the main construction working areas (eg tower positions, compounds and accesses). The intensity of the effects would also vary dependent on the specific construction activities in place at the time they were experienced by path users. Where significant effects were experienced, it is predicted these would therefore be transient and periodic, although some people would be affected more frequently where the recreational route was used as part of their daily routine eg for journeys to work or to access community facilities which were undertaken regularly.

16.5.22 The Principal Contractors and SSEN Transmission project, environmental and community liaison managers will play a key role in ensuring that the construction activities are delivered robustly in line with the mitigation measures set out in this EIAR including the Outdoor Access Management Plan (OAMP) etc Overall, given the scale and duration of the construction programme and the number and location of the recreational routes there is potential for construction interactive effects from visual amenity and traffic related environmental effects to be **Significant** at times for some users albeit for limited periods of time and typically for part of the overall journey being made. Significant adverse interactive effects are not predicted during less intensive periods of the construction programme following completion of Phase 2 construction stages.

16.5.23 In addition, these interactive effects could potentially be exacerbated if the Proposed Development's construction programme coincides with the construction programmes of the intra developments and / or the inter developments considered in the in-combination assessment. Again, the Principal Contractors and SSEN Transmission's project, environmental and community liaison managers will play a key role in ensuring that the construction activities are delivered robustly in line with the mitigation measures set out in this EIAR.

Accessible Woodlands

16.5.24 No significant adverse interactive effects are predicted in relation to users of accessible woodlands beyond those captured above for users of recreational routes where these may be located in woodland areas close to the OHL alignment. Predicted effects and mitigation of relevance to this receptor group are also set out in **Volume 2, Chapter 9: Landscape and Visual Amenity.**

Accessible Watercourses

16.5.25 **Table 16.5: Identification of Potential Interactive Effects** indicates that users of accessible watercourses may experience cumulative interactive effects from the Proposed Development during construction and operation.

16.5.26 The key effects would be predicted on people accessing watercourses for fishing from exclusion zones which would be established for safety reasons, these which will be in place either side of the OHL conductors that cross rivers or run close to them, and from associated adverse visual amenity effects (and potentially from some noise and other disturbance during construction close to recreational areas). These effects would occur notably along the key rivers used for fishing such as the River Dee, River North Esk and River South Esk which are accessed by local communities and tourists and visitors to the region. Effects would be experienced during construction but would then continue into the operational phase of the Proposed Development for some users.

16.5.27 Mitigation measures set out in **Volume 2, Chapter 7: Land Use and Prime Agricultural Land** and **Chapter 9: Landscape and Visual Amenity,** including key measures from the Construction Environmental Management Plan, Enhanced Construction Traffic Management Plan and an Outdoor Access Management Plan (a full schedule of mitigation is set out in **Volume 2, Chapter 17: Schedule of Mitigation**), will be implemented and will reduce effects to some extent particularly during construction but it is predicted that users would experience residual interactive cumulative effects during both construction and operation which may be **Significant** for some people**.**

16.5.28 The Principal Contractor/s and SSEN Transmission project, environmental and community liaison managers will play a key role in ensuring that the construction activities are delivered robustly in line with the mitigation measures set out in this EIAR.

16.5.29 The key watercourses where receptors are predicted to be affected in the vicinity of the proposed OHL crossing locations are:

- Kerbet Water;
- Dean Water;
- River South Esk;
- West Water;
- River North Esk;
- Bervie Water;
- Cowie Water; and
- River Dee.

16.5.30 Visual amenity effects may improve over time as screening and compensatory planting matures; although this may not be proposed in the vicinity of all watercourses, see **Volume 2, Chapter 9: Landscape and Visual Amenity** for further details.

Areas of Significance for Culture, Heritage, History and Education

16.5.31 No significant cumulative interactive effects are predicted in relation to areas of significance for culture, heritage, history and education. Predicted effects and mitigation on the principal receptors considered to be susceptible to effects from the Proposed Development are set out in **Volume 2, Chapter 10: Cultural Heritage.**

Areas of Intrinsic Importance for the Natural Heritage

16.5.32 Residual effects are predicted on some areas of intrinsic importance for natural heritage considered within the relevant topic-specific disciplines of the EIA. However, effects on ecological designated sites / habitats, GWDTE, and prime agricultural land (PAL) are not considered to have the potential for significant interaction and their respective receptors are generally unrelated (not interdependent), therefore no significant adverse cumulative interactive effects are predicted. Predicted effects and mitigation are set out in **Volume 2, Chapter 7: Land Use and Prime Agricultural Land**, **Chapter 11: Ecology** and **Chapter 13: Hydrology, Hydrogeology, Geology and Soils**.

16.6 Summary of Predicted Effects and Additional Mitigation Measure

16.6.1 Significant in-combination and interactive cumulative effects are predicted from the Proposed Development primarily during the construction phase, but also during operation.

16.6.2 The following additional mitigation measure will be applied in order to reduce, as far as practically possible, significant cumulative in-combination and interactive effects which are predicted during construction from the Proposed Development. This is in addition to the mitigation set out already in this EIAR, see **Volume 2, Chapter 17: Schedule of Mitigation.**

Additional Mitigation Measure

- The Principal Contractors will appoint an Environmental Laision Manager with specific responsibility to lead on managing and wherever possible reducing cumulative environmental effects (in-combination and interactive) during construction. In this role the Environmental Laision Manager will:
  - further develop the information presented in this EIAR to identify which communities and, as appropriate, individual properties will likely be affected by significant cumulative adverse interactive visual, noise and traffic effects at each phase of the construction programme;
  - maintain awareness of the other developments' (especially for SSEN Transmission projects) construction programmes, key personnel and management plans and establish a system and process for exchanging information and coordinating construction activities and programming in advance;

- lead on ensuring that the information on in-combination and interactive effects is used to identify and plan appropriate local and bespoke mitigation measures which can be put in place in advance of, and during, construction activities to avoid, reduce or manage adverse cumulative effects;
- work with the SSEN Transmission Community Liaison Manager to ensure that residents are made aware of the programme and nature of forthcoming construction activities, the measures in place to minimise adverse cumulative effects and how to raise and escalate issues, and to whom, when they are concerned;
- liaise with other stakeholders including the Local Planning Authorities and Regulators and appointed community representatives as appropriate in relation to mitigating and managing cumulative effects;
- monitor the effectiveness of mitigation measures for cumulative effects, including feedback from residents and stakeholders, and adjust systems and processes accordingly to improve adverse effects; and where relevant work with key personnel of the other developments to pursue the same objective; and
- ensure that staff and resource levels are adequate to deliver on the above.

16.6.3 No practical additional mitigation can be applied to avoid, reduce or offset the cumulative adverse in-combination land use, landscape and visual, and cultural heritage effects which are predicted during operation of the Proposed Development beyond those set out already in this EIAR, see **Volume 2, Chapter 17: Schedule of Mitigation.**

16.6.4 The level of significance for cumulative effects on sensitive receptors derives from a combination of several topic effects occurring at the same time and it is not considered appropriate to assign a specific level of significance to the overall predicted residual cumulative effects. Provided that the additional mitigation measure set out above is resourced and executed comprehensively, it is predicted that the potential for significant adverse interactive (and in-combination) cumulative effects will be reduced to some extent. It is likely that some significant cumulative effects may still be experienced by some people, particularly those closest to the main construction work areas or accesses, however the incidence and duration of these effects would be reduced with robust mitigation such that effects would be periodic rather than continuous.

Table 16.5: Identification of Potential Interactive Effects

EIAR Chapter	Receptor Groups and Sub-Groups												
	People in their homes and communities / local environment		Areas accessed for greenspace, recreation and wider enjoyment of the countryside				Areas of significance for culture, heritage, history and education			Areas of intrinsic importance for the natural heritage			
	Residential properties (or groups)	Private water supplies (PWS)	Parks, open spaces, recreation areas	Key recreational routes including Core Paths	Accessible woodlands	Accessible watercourses	GDLs and historic landscapes	Key heritage sites (especially those visited by the public)	Other sites of local / community cultural importance	Sensitive and rare habitats and species	Protected areas / resources including designated sites	Important landscapes	River catchments / corridors
Land Use and Prime Agricultural Land (Chapter 7)	N/A	N/A	Construction (Recreational Airfields) Operation (Recreational Airfields)	N/A	N/A	Construction (Recreational Fisheries) Operation (Recreational Fisheries)	N/A	N/A	N/A	N/A	Construction (PAL)	N/A	N/A
Forestry (Chapter 8)	N/A	N/A	N/A	N/A	Construction (Woodland)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Landscape and Visual Amenity (Chapter 9)	Construction (Visual) Operation (Visual)	N/A	Construction (some Visual receptors <1 km) Operation (some Visual receptors <1km)	Construction (some Visual receptors <1 km) Operation (some Visual receptors <1km)	Construction (some Visual receptors <1 km) Operation (some Visual receptors <1km)	Construction (some Visual receptors <1 km) Operation (some Visual receptors <1km)	N/A	N/A	N/A	N/A	N/A	Construction (LLAs / SLAs) Operation (LLAs / SLAs)	N/A
Cultural Heritage (Chapter 10)	N/A	N/A	N/A	N/A	N/A	N/A	Construction Operation	Operation (Scheduled Monuments)	Construction	N/A	N/A	N/A	N/A
Ecology (Chapter 11)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Construction (Species)	Construction (Designated Sites)	N/A	N/A
Ornithology (Chapter 12)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	*Negligible*	*Negligible*	N/A	N/A
Hydrology, Hydrogeology, Geology and Soils (Chapter 13)	N/A	Construction (PWS)	N/A	N/A	N/A	*Negligible*	N/A	N/A	N/A	N/A	Construction (GWDTE) *Negligible (Designated Sites)*	N/A	*Negligible*
Traffic and Transport (Chapter 14)	Construction (Traffic)	N/A	N/A	Construction (Core Paths)	Construction (Core Paths)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Noise and Vibration (Chapter 15)	Construction (Noise)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Potential for Interactive Effects from the Proposed Development	Yes Construction	No	No	Yes Construction	No	Yes Construction and Operation	No	No	No	No	No	No	No
Comment	Further consideration of interactive effects during construction on groups of residential properties is required. See **Table 16.6: Predicted Interactive Effects on Residential Properties (Groups).**		Further consideration of interactive effects during the construction period on key recreational routes including Core Paths, and during construction and operation on accessible watercourses is required.				Interactive effects not predicted on areas of significance for culture, heritage, history and education, no further consideration is required.			Interactive effects are predicted on areas of intrinsic importance for the natural heritage. However, effects on protected areas / resources including designated sites are on distinct and unrelated receptors, no further consideration is required.			

	• Significant Residual Effect
	• Non-Significant Residual Effect
	• Potential Significant Interactive Effect
N/A	• Not Assessed

Table 16.6: Predicted Interactive Effects on Residential Properties (Groups)

Property Grouping	Residual Visual Effect During Construction [a]	Visual Receptor Area (VRA) Reference Number	Residual Noise Effect During Construction [b]	Noise Sensitive Receptor (NSR) Reference Numbers	Traffic Effect During Construction [c]	Possible Significant Cumulative Effect?	Explanation
Downfield	Yes (Minor)	A1	No	None	No	No	N/A
Templeton, Gallowhill, Myreton of Claverhouse, and Inveraldie	Yes (Moderate)	A2	No	None	Yes	Yes	Following the implementation of mitigation measures, as described in the respective technical chapters in this EIAR, properties in this grouping may experience cumulative interactive ***visual and traffic*** effects during the construction period. Cumulative interactive effects experienced by residents would vary throughout the construction programme and potentially may be **Significant** during some periods of Phase 1 of the construction programme including the vegetation clearance and felling phase, the setting up of compounds and the creation of access tracks, and during the busiest periods of Phase 2 when the OHL tower foundations are formed and towers are constructed.
Balnuith	Yes (Moderate)	A3	No	None	Yes	Yes	See Templeton, Gallowhill, Myreton of Claverhouse, and Inveraldie above.
Tealing and Kirkton of Tealing	Yes (Minor)	A4	No	None	Yes	Yes	See Templeton, Gallowhill, Myreton of Claverhouse, and Inveraldie above.
North of Tealing, Huntingfaulds, Todhills and Cotton of Brighty	Yes (Minor)	A5	No	None	Yes	Yes	See Templeton, Gallowhill, Myreton of Claverhouse, and Inveraldie above.
Balkemback	Yes (Major)	A6	Predicted during: • clearance / felling • access / enabling • piling / foundations	1 to 8	Yes	Yes	Following the implementation of mitigation measures, as described in the respective technical chapters in this EIAR, properties in this grouping may experience cumulative interactive ***visual, noise and traffic*** effects during the construction period. Interactive effects experienced by residents would vary throughout the construction programme and would be dependent on the individual location and orientation of each property, the machinery, plant and vehicles used and the timing and duration of each activity. Interactive cumulative effects potentially may be **Significant** particularly during some periods of Phase 1 of construction including the vegetation clearance and felling phase, compound establishment and creation of access tracks and also during the busiest periods of Phase 2 during foundation and OHL tower formation.
Balluderon and Balkello	Yes (Moderate)	A7	No	9	Yes	Yes	See Templeton, Gallowhill, Myreton of Claverhouse, and Inveraldie above.
Ark Hill, Balkello, Craigowl and Gallow Hills	Yes (Major)	A8	No	None	No	No	N/A
Prieston and Coldstream	Yes (Major)	A9	Predicted during: • access / enabling	10 to 14	Yes	Yes	See Balkemback above.
Lumley Den to Happas	Yes (Moderate)	A10	No	None	Yes	Yes	See Templeton, Gallowhill, Myreton of Claverhouse, and Inveraldie above.
Kinettles, Kinaldrum, Gateside, and Invereighty	Yes (Minor)	A11	No	None	Yes	Yes	See Templeton, Gallowhill, Myreton of Claverhouse, and Inveraldie above.
Upper Hayston Farm to Nether Hayston	Yes (Major)	A12	No	18, 20, 23, 519	Yes	Yes	See Templeton, Gallowhill, Myreton of Claverhouse, and Inveraldie above.
Meikle Kilmundie to Arniefoul Mill	Yes (Major)	A13	No	15 to 17	Yes		See Templeton, Gallowhill, Myreton of Claverhouse, and Inveraldie above.
Milton of Ogilvie and Rochelhill	Yes (Minor)	A14	No	None	Yes	Yes	See Templeton, Gallowhill, Myreton of Claverhouse, and Inveraldie above.
Charleston	Yes (Minor)	A15	No	None	No	No	N/A
Glamis	Yes (Negligible)	A16	No	None	No	No	N/A
Plans of Thornton	Yes (Major)	A17	Predicted during: • clearance / felling	19, 21, 22, 24 to 31	Yes	Yes	See Balkemback above.
Douglastown and Kirkton	Yes (Moderate)	A18	No	32 to 35	Yes	Yes	See Templeton, Gallowhill, Myreton of Claverhouse, and Inveraldie above.
Ingliston and Mains of Brigton	Yes (Major)	A19	No	None	Yes	Yes	See Templeton, Gallowhill, Myreton of Claverhouse, and Inveraldie above.
Haughs of Cossans	Yes (Moderate)	A20	No	None	No	No	N/A
Glamis, Leys of Cossans, and Kinalty Haughs	Yes (Moderate)	A21	No	None	No	No	N/A

Property Grouping	Residual Visual Effect During Construction [a]	Visual Receptor Area (VRA) Reference Number	Residual Noise Effect During Construction [b]	Noise Sensitive Receptor (NSR) Reference Numbers	Traffic Effect During Construction [c]	Possible Significant Cumulative Effect?	Explanation
Westmuir, Drumshade, and Logie	Yes (Moderate)	B1	No	None	No	No	N/A
Ballindarg	Yes (Moderate)	B2	Predicted during: • access / enabling	36	No	Yes	Following the implementation of mitigation measures, as described in the respective technical chapters in this EIAR, properties in this grouping may experience cumulative interactive ***visual and noise*** effects during the construction period. Interactive effects experienced by residents would vary throughout the construction programme and would be dependent on the individual location and orientation of each property, the machinery and plant used and the timing and duration of each activity. Interactive cumulative effects potentially may be **Significant** particularly during some periods of Phase 1 of construction including the vegetation clearance and felling phase, compound establishment and creation of access tracks and also during the busiest periods of Phase 2 during foundation and OHL tower construction.
Upper Drumgley to Loch of Forfar	Yes (Moderate)	B3	No	None	Yes	Yes	See Templeton, Gallowhill, Myreton of Claverhouse, and Inveraldie above.
Forfar	Yes (Minor)	B4	No	None	No	No	N/A
Balmashanner Hill	Yes (Minor)	B5	No	None	No	No	N/A
Padanaram	Yes (Major)	B6	No	37	Yes	Yes	See Templeton, Gallowhill, Myreton of Claverhouse, and Inveraldie above.
Baggerton, Bogside, and Lunanhead	Yes (Moderate)	B7	No	None	Yes	Yes	See Templeton, Gallowhill, Myreton of Claverhouse, and Inveraldie above.
Mosside of Ballinshoe to Over Bow	Yes (Major)	B8	Predicted during: • access / enabling	42 to 46, 49-52	Yes	Yes	See Balkemback above.
Redford to Woodside	Yes (Major)	B9	Predicted during: • access / enabling • piling / foundations	38 to 41, 47, 48, 55, 56	Yes	Yes	See Balkemback above.
Kirriemuir	Yes (Minor)	B10	No	None	Yes	Yes	See Templeton, Gallowhill, Myreton of Claverhouse, and Inveraldie above.
Drumclune, Garlowbank, Forest Muir, and Bog	Yes (Moderate)	B11	No	None	Yes	Yes	See Templeton, Gallowhill, Myreton of Claverhouse, and Inveraldie above.
Blairyfeddon to Craigeassie	Yes (Major)	B12	Predicted during: • clearance / felling	53, 54, 57, 63, 66-69	Yes	Yes	See Balkemback above.
North Quilkoe to Battledykes	Yes (Minor)	B13	No	None	Yes	Yes	See Templeton, Gallowhill, Myreton of Claverhouse, and Inveraldie above.
Bogindollo and Oathlaw	Yes (Minor)	B14	No	None	Yes	Yes	See Templeton, Gallowhill, Myreton of Claverhouse, and Inveraldie above.
Murthill to Tobees	Yes (Moderate)	B15	No	70 to 72	Yes	Yes	See Templeton, Gallowhill, Myreton of Claverhouse, and Inveraldie above.
Cairnhill	Yes (Major)	B16	Predicted during: • clearance / felling	58 to 62, 64, 65, 520	Yes	Yes	See Balkemback above.
Derachie, Downiepark, and Shielhill	Yes (Moderate)	B17	No	None	Yes	Yes	See Templeton, Gallowhill, Myreton of Claverhouse, and Inveraldie above.
Meikle Coull to Knowehead	Yes (Major)	B18	Predicted during: • clearance / felling	75 to 78	Yes	Yes	See Balkemback above.
Tannadice	Yes (Major)	B19	No	73, 74	Yes	Yes	See Templeton, Gallowhill, Myreton of Claverhouse, and Inveraldie above.
Tannadice to Hill of Finavon	Yes (Moderate)	B20	No	None	Yes	Yes	See Templeton, Gallowhill, Myreton of Claverhouse, and Inveraldie above.
Balgarrock, Netherton, and Broomknowe	Yes (Minor)	B21	No	None	No	No	N/A
Noranbank to Careston	Yes (Moderate)	B22	No	None	Yes	Yes	See Templeton, Gallowhill, Myreton of Claverhouse, and Inveraldie above.
Hilton of Fern and Roughmount Wood	Yes (Moderate)	B23	No	None	Yes	Yes	See Templeton, Gallowhill, Myreton of Claverhouse, and Inveraldie above.

Property Grouping	Residual Visual Effect During Construction [a]	Visual Receptor Area (VRA) Reference Number	Residual Noise Effect During Construction [b]	Noise Sensitive Receptor (NSR) Reference Numbers	Traffic Effect During Construction [c]	Possible Significant Cumulative Effect?	Explanation
Wellford to Boggie Wood	Yes (Major)	B24	No	81, 82	Yes	Yes	See Balkemback above.
South Noranside	Yes (Moderate)	B25	No	79	Yes	Yes	See Templeton, Gallowhill, Myreton of Claverhouse, and Inveraldie above.
Auchnacree, Glenogil, Ogil, and Fern	Yes (Moderate)	B26	No	80	No	No	N/A
Trusta, Afflonchie, Shandford, and Menmuir	Yes (Minor)	B27	No	None	Yes	Yes	See Templeton, Gallowhill, Myreton of Claverhouse, and Inveraldie above.
Balmadity to Blackhall	Yes (Major)	B28	Predicted during: • clearance / felling	97 to 100, 102 to 110, 112 to 116	Yes	Yes	See Balkemback above.
Montboy to Mill of Cruick	Yes (Major)	B29	Predicted during: • piling / foundations	83 to 96, 101, 111	Yes	Yes	See Balkemback above.
Cotton of Balnamoon & Balzeordie	Yes (Minor)	C1	No	None	Yes	Yes	See Templeton, Gallowhill, Myreton of Claverhouse, and Inveraldie above.
Belliehill to Balrownie	Yes (Major)	C2	Predicted during: • clearance / felling, • access / enabling	117 to 122	Yes	Yes	See Balkemback above.
Maisondieu, Barewell, and Kintrockat	Yes (Moderate)	C3	No	None	Yes	Yes	See Templeton, Gallowhill, Myreton of Claverhouse, and Inveraldie above.
West Brechin	Yes (Minor)	C4	No	None	Yes	Yes	See Templeton, Gallowhill, Myreton of Claverhouse, and Inveraldie above.
Little Brechin	Yes (Moderate)	C5	No	None	Yes	Yes	See Templeton, Gallowhill, Myreton of Claverhouse, and Inveraldie above.
Dubton, Keithock, Trinity, and Muirton of Ballochy	Yes (Minor)	C6	No	None	Yes	Yes	See Templeton, Gallowhill, Myreton of Claverhouse, and Inveraldie above.
Grosefield to Stracathro	Yes (Moderate)	C7	No	None	Yes	Yes	See Templeton, Gallowhill, Myreton of Claverhouse, and Inveraldie above.
Brathinch and Bankhead Wood	Yes (Moderate)	C8	No	123, 124	Yes	Yes	See Templeton, Gallowhill, Myreton of Claverhouse, and Inveraldie above.
Inchbare	Yes (Moderate)	C9	No	127 to 140	Yes	Yes	See Templeton, Gallowhill, Myreton of Claverhouse, and Inveraldie above.
Lummington	Yes (Major)	C10	No	125, 126	Yes	Yes	See Templeton, Gallowhill, Myreton of Claverhouse, and Inveraldie above.
Chapelton & Reidhall	Yes (Moderate)	C11	No	None	Yes	Yes	See Templeton, Gallowhill, Myreton of Claverhouse, and Inveraldie above.
Castletoun of Balzeordie to Bonhard	Yes (Minor)	C12	No	None	No	No	N/A
White and Brown Caterthun	Yes (Minor)	C13	No	None	No	No	N/A
Edzell	Yes (Minor)	C14	No	None	Yes	Yes	See Templeton, Gallowhill, Myreton of Claverhouse, and Inveraldie above.
Westside to Inveriscandye	Yes (Major)	C15	Predicted during: • access / enabling • piling / foundations	141 to 148, 150	Yes	Yes	See Balkemback above.
Capo Plantation	Yes (Moderate)	C16	Predicted during: • access / enabling • piling / foundations	149, 151, 152	Yes	Yes	See Balkemback above.
Logie Pert to Blackiemuir	Yes (Minor)	C17	No	None	Yes	Yes	See Templeton, Gallowhill, Myreton of Claverhouse, and Inveraldie above.
Luthermuir	Yes (Major)	C18	No	161 to 166	Yes	Yes	See Templeton, Gallowhill, Myreton of Claverhouse, and Inveraldie above.

Property Grouping	Residual Visual Effect During Construction [a]	Visual Receptor Area (VRA) Reference Number	Residual Noise Effect During Construction [b]	Noise Sensitive Receptor (NSR) Reference Numbers	Traffic Effect During Construction [c]	Possible Significant Cumulative Effect?	Explanation
Mains of Drumhendry	Yes (Major)	C19	Predicted during: • clearance / felling, • piling / foundations	155 to 160, 167 to 178 153 and 154 are located just to the south of the VRA	Yes	Yes	See Balkemback above.
Edzell Airfield	Yes (Moderate)	C20	No	None	No	No	N/A
Edzell Woods	Yes (Minor)	C21	No	None	No	No	N/A
Black Burn and Craigmoston Burn	Yes (Moderate)	C22	No	None	Yes	Yes	See Templeton, Gallowhill, Myreton of Claverhouse, and Inveraldie above.
Fettercairn	Yes (Minor)	C23	No	None	Yes	Yes	See Templeton, Gallowhill, Myreton of Claverhouse, and Inveraldie above.
Hunters Hill to Wood of Barna	Yes (Minor)	C24	No	None	No	No	N/A
Mains of Thornton	Yes (Major)	C25	No	179 to 188, 191 to 202	Yes	Yes	See Templeton, Gallowhill, Myreton of Claverhouse, and Inveraldie above.
North of Lady Jane's Plantation	Yes (Major)	C26	Predicted during: • access / enabling	189, 190	Yes	Yes	See Balkemback above.
Inchgray Farm to Auchcairnie Croft	Yes (Moderate)	C27	Predicted during: • clearance / felling, • access / enabling	203 to 205	Yes	Yes	See Balkemback above.
Laurencekirk	Yes (Minor)	D1	No	None	No	No	N/A
Barnhill, Burnton, Burnhead, Johnston Mains, and Johnston Lodge, Hill of Garvock	Yes (Minor)	D2	No	None	No	No	N/A
Haulkerton, Scotston, and Haddo	Yes (Minor)	D3	No	None	Yes	Yes	See Templeton, Gallowhill, Myreton of Claverhouse, and Inveraldie above.
Westerton / Waulkmill	Yes (Major)	D4	No	206 to 211, 218, 219, 221, 224 to 226, 228	Yes	Yes	See Templeton, Gallowhill, Myreton of Claverhouse, and Inveraldie above.
Cammackmuir Plantation / Gallows Knap	Yes (Major)	D5	No	212 to 217, 220, 222, 223, 227	Yes	Yes	See Templeton, Gallowhill, Myreton of Claverhouse, and Inveraldie above.
West Cairnbeg / Scotch-haugh Burn	Yes (Moderate)	D6	No	None	Yes	Yes	See Templeton, Gallowhill, Myreton of Claverhouse, and Inveraldie above.
Woods of Redhall / Nursery Burn	Yes (Major)	D7	Predicted during: • clearance / felling, • access / enabling • piling / foundations	236, 237, 239 to 250, 252 to 262, 265, 267, 268	Yes	Yes	See Balkemback above.
Redhall / Pittengardner	Yes (Major)	D8	No	229 - 235, 238	Yes	Yes	See Templeton, Gallowhill, Myreton of Claverhouse, and Inveraldie above.
Fordoun	Yes (Minor)	D9	No	None	Yes	Yes	See Templeton, Gallowhill, Myreton of Claverhouse, and Inveraldie above.
Mondynes, Gyratesmyre, Kair, and Davo	Yes (Minor)	D10	No	None	Yes	Yes	See Templeton, Gallowhill, Myreton of Claverhouse, and Inveraldie above.
Herscha Hill / Stoneyfield Belt	Yes (Moderate)	D11	No	None	Yes	Yes	See Templeton, Gallowhill, Myreton of Claverhouse, and Inveraldie above.
Auchenblae	Yes (Minor)	D12	No	None	No	No	N/A
Mains of Glenfarquhar to Brae of Glenbervie	Yes (Minor)	D13	No	None	Yes	Yes	See Templeton, Gallowhill, Myreton of Claverhouse, and Inveraldie above.
Mains of Dellavaird	Yes (Moderate)	D14	No	None	Yes	Yes	See Templeton, Gallowhill, Myreton of Claverhouse, and Inveraldie above.

Property Grouping	Residual Visual Effect During Construction [a]	Visual Receptor Area (VRA) Reference Number	Residual Noise Effect During Construction [b]	Noise Sensitive Receptor (NSR) Reference Numbers	Traffic Effect During Construction [c]	Possible Significant Cumulative Effect?	Explanation
North Blairs to Burnhead of Monboddo	Yes (Major)	D15	Predicted during: • access / enabling	269, 271 to 273, 275 to 279	Yes	Yes	See Balkemback above.
Auchtochter	Yes (Major)	D16	No	251, 263, 264, 266, 270, 274, 280 243 and 245 are south of the VRA	Yes	Yes	See Templeton, Gallowhill, Myreton of Claverhouse, and Inveraldie above.
Glenbervie	Yes (Moderate)	D17	No	281	Yes	Yes	See Templeton, Gallowhill, Myreton of Claverhouse, and Inveraldie above.
Drumlithie	Yes (Negligible)	D18	No	None	No	No	N/A
Kinmonth	Yes (Minor)	D19	No	None	No	No	N/A
Inches	Yes (Major)	D20	No	282	No	No	N/A
Jacksbank	Yes (Major)	D21	No	283, 285 to 287	Yes	Yes	See Balkemback above.
Newmill to Tannachie	Yes (Major)	D22	Predicted during: • access / enabling	284, 288, 289 to 294	Yes	Yes	See Balkemback above.
Carmont Hill	Yes (Moderate)	D23	No	None	Yes	Yes	See Templeton, Gallowhill, Myreton of Claverhouse, and Inveraldie above.
Quithel	Yes (Major)	D24	Predicted during: • access / enabling	292, 295, 296, 303	Yes	Yes	See Balkemback above.
Elfhill	Yes (Major)	D25	Predicted during: • access / enabling	297 to 302, 304, 305	Yes	Yes	See Balkemback above.
The Wyndings	Yes (Moderate)	D26	No	None	Yes	Yes	See Templeton, Gallowhill, Myreton of Claverhouse, and Inveraldie above.
Fetteresso Forest	Yes (Minor)	E1	No	None	No	No	N/A
Hill of Swanley, Cheyne, and Fetteresso	Yes (Moderate)	E2	No	None	Yes	Yes	See Templeton, Gallowhill, Myreton of Claverhouse, and Inveraldie above.
Cowie Water and Black Burn	Yes (Moderate)	E3	Predicted during: • clearance / felling • piling / foundations	306 to 312	No	Yes	See Ballindarg above.
Rickarton and Slug Road	Yes (Moderate)	E4	No	313	Yes	Yes	See Templeton, Gallowhill, Myreton of Claverhouse, and Inveraldie above.
Strathgyle Wood, Hill of Auquhollie, and Nether Auquhollie	Yes (Moderate)	E5	No	None	No	No	N/A
Cairn-mon-earn, Durris Forest	Yes (Major)	E6	No	None	Yes	Yes	See Templeton, Gallowhill, Myreton of Claverhouse, and Inveraldie above.
Tilquhillie, Blairydrine, and Crossroads	Yes (Moderate)	E7	No	None	Yes	Yes	See Templeton, Gallowhill, Myreton of Claverhouse, and Inveraldie above.
Balladrum Wood	Yes (Major)	E8	No	314, 316	Yes	Yes	See Templeton, Gallowhill, Myreton of Claverhouse, and Inveraldie above.
Funach Wood	Yes (Major)	E9	No	318, 319	Yes	Yes	See Templeton, Gallowhill, Myreton of Claverhouse, and Inveraldie above.
Calladrum Wood	Yes (Major)	E10	No	315, 317	Yes	Yes	See Templeton, Gallowhill, Myreton of Claverhouse, and Inveraldie above.
Woodlands of Durris, Denside, and Muirskie	Yes (Minor)	E11	No	None	No	No	N/A
Balfour Cottages / B9077	Yes (Minor)	E12	No	None	Yes	Yes	See Templeton, Gallowhill, Myreton of Claverhouse, and Inveraldie above.
Kirkton of Durris	Yes (Major)	E13	Predicted during: • access / enabling	320 to 325	Yes	Yes	See Balkemback above.

Property Grouping	Residual Visual Effect During Construction [a]	Visual Receptor Area (VRA) Reference Number	Residual Noise Effect During Construction [b]	Noise Sensitive Receptor (NSR) Reference Numbers	Traffic Effect During Construction [c]	Possible Significant Cumulative Effect?	Explanation
			• piling / foundations				
Maryfield and Crathes	Yes (Minor)	E14	No	None	Yes	Yes	See Templeton, Gallowhill, Myreton of Claverhouse, and Inveraldie above.
A93 / West Park	Yes (Major)	E15	No	326 to 331	Yes	Yes	See Templeton, Gallowhill, Myreton of Claverhouse, and Inveraldie above.
Park House / A93	Yes (Major)	E16	No	332 to 335, 338	Yes	Yes	See Templeton, Gallowhill, Myreton of Claverhouse, and Inveraldie above.
Keith's Tower	Yes (Minor)	E17	No	None	No	No	N/A
Upper Park/Beechgrove Cottages	Yes (Major)	F1	No	336, 337, 339 to 349	Yes	Yes	See Templeton, Gallowhill, Myreton of Claverhouse, and Inveraldie above.
Myrebird and the Neuk	Yes (Minor)	F2	No	None	No	No	N/A
Loch of Park & Collonach Plantation	Yes (Moderate)	F3	No	350, 352, 353	Yes	Yes	See Templeton, Gallowhill, Myreton of Claverhouse, and Inveraldie above.
West of Drumoak	Yes (Moderate)	F4	No	351, 354 to 357	Yes	Yes	See Templeton, Gallowhill, Myreton of Claverhouse, and Inveraldie above.
Drumoak	Yes (Minor)	F5	No	None	Yes	Yes	See Templeton, Gallowhill, Myreton of Claverhouse, and Inveraldie above.
Mains of Drum, Coalford, and Dalmaik	Yes (Minor)	F6	No	None	Yes	Yes	See Templeton, Gallowhill, Myreton of Claverhouse, and Inveraldie above.
North of Drumoak	Yes (Minor)	F7	No	358, 360	No	No	N/A
Drum Castle	Yes (Minor)	F8	No	None	No	No	N/A
Quartains	Yes (Major)	F9	Predicted during: • access / enabling	361, 368 to 370, 372, 373, 375	Yes	Yes	See Balkemback above.
Hirn, Glashmore, and Rashenlochy	Yes (Moderate)	F10	Predicted during: • access / enabling piling / foundations	359, 362 to 367, 371, 521	Yes	Yes	See Balkemback above.
Schoolhill	Yes (Major)	F11	Predicted during: • access / enabling	374 to 386	Yes	Yes	See Balkemback above.
North Eddieston, Little Eddieston, Meikle Eddieston, Upper Anguston, Easter Anguston	Yes (Minor)	F12	No	None	No	No	N/A
Garlogie, Redhill, Benthoul, and Cairnie	Yes (Minor)	F13	Predicted during: • tower erection and stringing	484, 495, 496, 499, 507, 509, 516, 517, 518	Yes	Yes	See Balkemback above.
Hill of Braigie, Braigiewell, East Finnercy, Northton, and Templefold	Yes (Moderate)	F14	No	387 to 389, 485, 500, 501 to 504, 515	Yes	Yes	See Templeton, Gallowhill, Myreton of Claverhouse, and Inveraldie above.
Landerberry, Milton of Finnercy, and Tillyhogle	Yes (Major)	F15	Predicted during: • access / enabling	390 to 395, 486, 497, 505, 512	Yes	Yes	See Balkemback above.
Meikle Tap and Wester Tillyshogle	Yes (Moderate)	F16	No	None	Yes	Yes	See Templeton, Gallowhill, Myreton of Claverhouse, and Inveraldie above.
South Kirkton, Mill of Echt, and Tillioch	Yes (Moderate)	F17	Predicted during: • tower erection and stringing	483, 487, 488, 490 to 494, 498, 506, 508, 510, 511, 513, 514	Yes	Yes	See Balkemback above.
Knockquharn, Easter Echt, Milton of Garlogie, and Lochead	Yes (Minor)	F18	No	None	Yes	Yes	See Templeton, Gallowhill, Myreton of Claverhouse, and Inveraldie above.
Easter Culfosie, North Monecht, and Meanecht	Yes (Major)	F19	Predicted during: • clearance / felling	400, 404 to 406, 409 to 417	Yes	Yes	See Balkemback above.

Property Grouping	Residual Visual Effect During Construction [a]	Visual Receptor Area (VRA) Reference Number	Residual Noise Effect During Construction [b]	Noise Sensitive Receptor (NSR) Reference Numbers	Traffic Effect During Construction [c]	Possible Significant Cumulative Effect?	Explanation
North Mains, Myriewell, Kirk Cottages and South Monecht	Yes (Moderate)	F20	Predicted during: • clearance / felling, • access / enabling	398, 399, 401, 403, 407	Yes	Yes	See Balkemback above.
Echt	Yes (Moderate)	F21	No	402, 489,	Yes	Yes	See Templeton, Gallowhill, Myreton of Claverhouse, and Inveraldie above.
North Tillysdaff, Upper Balblair, Cunningar, Mill of Hole, and West Mains	Yes (Negligible)	F22	No	None	Yes	Yes	See Templeton, Gallowhill, Myreton of Claverhouse, and Inveraldie above.
Barmekin Hill, Barmekin Wood and surroundings	Yes (Major)	F23	No	408, 418, 425, 426, 522	Yes	Yes	S See Templeton, Gallowhill, Myreton of Claverhouse, and Inveraldie above.
Banteith, Wateridgemuir, Meikle Midmar, and Nethermuir	Yes (Minor)	F24	No	None	No	No	N/A
Dunecht Village and surroundings	Yes (Major)	F25	Predicted during: • access / enabling • piling / foundations	419 to 424, 427 to 431	Yes	Yes	See Balkemback above.
Warton Loch, Dunecht House and surroundings	Yes (Minor)	F26	No	None	No	No	N/A
Lyne of Skene, Balmuir Wood and Knockquarn Lodge	Yes (Minor)	F27	No	None	Yes	Yes	See Templeton, Gallowhill, Myreton of Claverhouse, and Inveraldie above.
Courtcairn, Sauchen, West Kinnernie, West Achath, and surroundings	Yes (Minor)	F28	No	None	Yes	Yes	See Templeton, Gallowhill, Myreton of Claverhouse, and Inveraldie above.
Lauchintilly and Glack	Yes (Moderate)	F29	No	None	No	No	N/A
Backhill of Glack to Leylodge	Yes (Major)	F30	Predicted during: • clearance / felling	432 to 434, 441 to 449, 480, 482	Yes	Yes	See Balkemback above.
Westhill	Yes (Major)	F31	Predicted during: • access / enabling	435 to 440	No	Yes	See Ballindarg above.
Womblehill, Burnside, Upper Terryvale, and Glasgoforest	Yes (Moderate)	F32	No	None	Yes	Yes	See Templeton, Gallowhill, Myreton of Claverhouse, and Inveraldie above.
Leylodge and surroundings	Yes (Major)	F33	Predicted during: • clearance / felling, • access / enabling • piling / foundations	450 to 479, 481	Yes	Yes	See Balkemback above.
Craigearn, Leschangie, and Harthills	Yes (Minor)	F34	No	None	No	No	N/A
Cottown	Yes (Minor)	F35	No	None	Yes	Yes	See Templeton, Gallowhill, Myreton of Claverhouse, and Inveraldie above.
Kintore, Waterside, and Deystone	Yes (Minor)	F36	No	None	No	No	N/A
Brownhill, Kemnay, Burgh Muir, and Clovenstone	Yes (Negligible)	F37	No	None	No	No	N/A

Notes for Table 16.6: Predicted Interactive Effects on Residential Properties (Groups):

*a The likely residual effects on visual amenity during construction are reported per property grouping (which align with the VRAs used in **Volume 2, Chapter 9: Landscape and Visual Amenity**), the level of significance of the residual effects are indicated.*

*b The noise sensitive receptors (NSRs) are shown per property grouping (which align with the VRAs). The specific locations of the NSRs are identified on **Volume 3, Figures 5.1 to 5.6: Cumulative Developments**. **Volume 2, Chapter 15: Noise and Vibration** reports that most NSR are likely to experience significant noise effects during the key noisiest construction phases but following the application of noise mitigation measures these effects will be reduced to minor noise levels or eliminated. Residual noise effects are most likely to be experienced by those properties that were predicted to have significant effects during construction >65 dB prior to mitigation, these are reported here per property grouping with an indication of the relevant noisiest activities, the worst case property is the property grouping is indicated which is generally the property closest to the activity location.*

*c The roads used during construction are shown per property grouping on **Volume 3, Figures 5.1 to 5.6: Cumulative Developments**.*