14 WIND FARM SEASCAPE, LANDSCAPE AND VISUAL

14.1 INTRODUCTION

1. This Section of the ES evaluates the likely significant effects of the Wind Farm on the seascape, landscape and visual environment. The assessment has been undertaken by LDA Design Consulting LLP and includes an assessment of cumulative effects.

2. The purpose of the assessment was to determine the sensitivity, magnitude and therefore significance of any changes to the character of the regional seascape, landscape, and any areas of designated landscapes, as well as the potential effects upon views and visual receptor groups.

3. This section of the ES is supported by the following documents:

- Appendix 14.1: Record of Consultation;
- Appendix 14.2: Assessment Methodology;
- Appendix 14.3: Seascape Baseline;
- Appendix 14.4: Landscape Baseline and Assessment;
- Appendix 14.5: Visual Assessment;
- Appendix 14.6: Meteorological data supplied by the Met Office;
- Appendix 14.7: Cumulative Assessment;
- Appendix 14.8: Cumulative Sequential Road Graphs; and
- Appendix 14.9: Glossary.

4. This section includes the following elements:

- Assessment Methodology and Significance Criteria – A description of the methodology applied including seascape characterisation and assessment criteria including definitions of magnitude and significance of effect;
- Baseline Description – Identification of the baseline seascape, landscape and visual environments within the agreed study area including identification of visual receptor groups;
- Development Design Mitigation – Identification of any embedded mitigation included within the scheme and any other mitigation arising out of the assessment process;
- Assessment of Potential Effects – Identification of all potential effects upon seascape and landscape character, the visual environments and visual receptors;
- Mitigation Measures and Residual Effects – Describes mitigation measures to be implemented with regard to effects which are significant in terms of the EIA Regulations and reports the residual effects after the application of these mitigation measures;
- Summary of Effects – Summary table of all seascape, landscape and visual effects anticipated to arise from the Wind Farm;
- Assessment of Cumulative Effects – A consideration of all cumulative effects arising from other existing, under construction, consented and reasonably foreseeable developments, both onshore and offshore;

- Statement of Significance – identifying those effects considered to be significant in EIA terms; and
- References.

14.2 ASSESSMENT METHODOLOGY AND SIGNIFICANCE CRITERIA

14.2.1 SCOPE OF ASSESSMENT

5. The seascape, landscape and visual assessment (SLVIA) was based on the Beatrice Offshore Wind Farm consisting of 142 turbines with a hub height of 115.9 m and blade tip height of 198.4 m above LAT, representing the maximum blade tip height in the design envelope identified as the worst case scenario for this effect. Please see Section 14.2.2 below which discusses the worst case scenario and assessment limitations.

6. To cover all the potentially significant seascape, landscape and visual effects of the above scenario, a 40 km radius Study Area around the Beatrice Offshore Wind Farm was agreed through consultation with SNH and Highland Council (HC) following review of the Zone of Theoretical Visibility (ZTV) plans. Please refer to Figure 14.1 for the location of the offshore Wind Farm and Study Area and Figures 14.2 and 14.3 which respectively illustrate the ZTV modelled as both bare-ground and with obstructions. Please also refer to Section 14.2.44 for an explanation of the ZTV construction and its limitations. The ZTV was run based on the Worst Case Scenario as defined in Section 14.2.2. The landward extents of the ZTV within the 40 km Study Area fall entirely within the administration of the Highland Council.

7. The Moray Coast and the Orkney Isles lie beyond the 40 km radius Study Area and were therefore scoped out of the assessment in agreement with consultees. The ZTVs show some visibility within these areas, albeit beyond 40 km. Wireframes were produced for three viewpoints within these areas to illustrate the potential effects (Figure 14.12). These assisted in securing consultee agreement to scope these areas out of the assessment. The three viewpoint locations are identified in Figure 14.8.

8. The scope of this assessment did not include the coverage of effects of the Wind Farm on individual Conservation Areas and other historic built features or their settings. These effects are discussed in Section 15: Marine Archaeology and Cultural Heritage. The general distribution of historic features and landscapes were however considered, as collectively they contribute to informing judgments on the character, historic importance and quality of the landscape.

9. Similar to historic features, this assessment did not cover the effects of the Wind Farm on individual ecological designations but considered the distribution of ecological interests to inform judgements on the character and quality of the landscape and seascape. Please refer to Section 8: Designated Sites and Legislation for key ecological designations.

14.2.2 WORST CASE SCENARIO

10. For the purposes of the SLVIA the 7 MW turbine design and indicative layout was agreed with the consultees as the worst case scenario as these turbines had the

highest blade tip. This indicative layout consists of 142 turbines with a hub height of 115.9 m and blade tip height of 198.4 m above lowest astronomical tide (LAT). It was also discussed with consultees that the 3.6 MW indicative layout with a larger number (up to 277) of smaller height turbines could be perceived as a worst case scenario in some situations and therefore it was also considered within the visual assessment of closer coastal receptors. The presence of up to three OSP also formed part of the worst case.

11. There will be up to three meteorological masts constructed within the Wind Farm and these will be placed on the edges of the site. These structures will be of lattice design and will be visually insignificant additions to the wider Wind Farm cluster. As such these structures have not been included in the visualisations or considered within the visual effect assessment.

12. At the time of this assessment the turbine substructure type has not been confirmed and will be subject to detailed site design. A variety of alternatives will be considered by the engineers as set out in the Rochdale Envelope (Section 7: Project Description). Of the options being considered the jacket option is the most visually intrusive and would likely constitute the worst case scenario. However, given the distance that the Wind Farm will lie from the coast, this will not affect the judgements made in this assessment with respect to the magnitude and significance of effect on land based receptors.

14.2.3 CONSULTATION

13. SNH and the HC were consulted from the outset of the Project with respect to the assessment methodology, study areas, viewpoint locations and cumulative scope. Further consultation on visualisation production also involved MS. Appendix 14.1 provides a detailed record of all the SLVIA consultation.

14.2.4 EFFECT ASSESSMENT METHODOLOGY

14. The assessment criteria used for the SLVIA of the Wind Farm was based on best practice guidance as listed below. The use of this guidance was discussed and approved through consultation with SNH and Highland Council:

- SNH (2005) Commissioned Report 103 An assessment of the sensitivity and capacity of the Scottish Seascape in relation to Wind Farms;
- SNH (2005) Cumulative Effects on Windfarms;
- DTI (2005) Guidance on the Assessment of Effect of Offshore Wind Farms: Seascape and Visual Effect Report;
- Institute of Environmental Management and Assessment (IEMA) and Landscape Institute's (LI) (2002) Guidelines for Landscape and Visual Effect Assessment;
- GSA (2001) Maritime Ireland/Wales Interreg 1994 - 1999 Guidance 'Guide to Best Practice in Seascape Assessment;
- SNH (2009) Siting and Design of Windfarms;
- SNH (2006) (albeit published in 2007) Visual Representation of Windfarms Best Practice Guidance;

- Countryside Agency (now Natural England) (2002) Landscape Character Assessment Guidance; and
- Office for the Deputy Prime Minister (ODPM) (2004) The Companion Guide to PPS22.

15. In addition, although not formally published yet, the SNH/Natural England emerging seascape characterisation methodology was used with agreement from SNH (please refer to Appendix 14.2 for a further details on this methodology).

16. The full agreed methodology used within this assessment and for production of the ZTVs and visualisations is detailed in Appendix 14.2. An overview of which is provided below.

17. The key terms used within the SLVIA assessment are sensitivity, magnitude and significance.

14.2.4.1 Sensitivity

18. The baseline assessment determines the sensitivity for seascape and landscape receptors such as designated areas and seascape and landscape character areas, and for visual receptors (people) at viewpoints. It provides an indication of the likelihood of unacceptable effects on those receptors from a development of the type proposed. A description of how sensitivity has been assessed for each receptor type is included below. It is rated on the following scale:

- High - material effects are likely to arise from a development of this nature;
- Medium - material effects may arise from a development of this nature; and
- Low - material effects are unlikely to arise from a development of this nature.

19. Sensitivity of seascape and landscape character areas is influenced by their characteristics and is frequently considered within documented landscape character assessments and capacity studies. Sensitivity of visual receptors is primarily a function of the expectations and occupation or activity of the receptor and the importance of the view. Sensitivity of designated landscapes is influenced by their value as indicated by their designation.

14.2.4.2 Magnitude of Effect Criteria

20. The magnitude of effect is assessed for all seascape, landscape and visual receptors and identifies the degree of change arising as a result of the Wind Farm. In accordance with best practice and generic Landscape and Visual Impact Assessment (LVIA) methodology it is rated on the following scale:

- High - Total or major alteration to key elements, features or characteristics, such that post development the baseline situation will be fundamentally changed;
- Medium - Partial alteration to key elements, features or characteristics, such that post development the baseline situation will be noticeably changed;
- Low - Minor alteration to key elements, features or characteristics, such that post development the baseline situation will be largely unchanged despite discernible differences;

- Negligible - Very minor alteration to key elements, features or characteristics, such that post development the baseline situation will be fundamentally unchanged with barely perceptible differences; and
- None – Where there is clearly no effect.

14.2.4.3 Significance Criteria

21. The process of forming a judgment regarding the significance of seascape, landscape or visual effects is based upon the assessments of magnitude of effects and the sensitivity of the receptor. Professional judgment as to how the importance is then used to assess the importance of the effect is informed by Table 14.1 below.

Table 14.1 Matrix of Significance of Effect

Magnitude	**Sensitivity**		
	Low	**Medium**	**High**
High	Moderate	Major-Moderate	Major
Medium	Moderate-Minor	Moderate	Major-Moderate
Low	Minor	Moderate-Minor	Moderate
Negligible	Negligible	Negligible	Negligible

22. Where there is no effect, this is stated as none.

23. Significant effects (in terms of the EIA Regulations) are those that are Major-Moderate or Major. It should be noted that whilst an effect may be significant, that does not necessarily mean that such an effect would be unacceptable.

14.2.4.4 Assessment Limitations

24. The turbine data to produce the ZTVs and visualisations was set so the turbine height is above ordnance datum (AOD) and not the LAT. This is due to the technicalities of coordinating the different grid systems used for land and sea within the SLVIA figures. The main differences between these two heights are found in tidal coastal waters and as the Wind Farm lies some distance offshore the potential difference between the two heights will be minimal and will not affect the findings of the SLVIA.

25. The OSPs were modelled into the visualisations using indicative locations and indicative designs and for the purposes of the SLVIA they provided an appropriate level of information.

26. An emerging seascape characterisation methodology, commissioned by Natural England and SNH, was due to be published at the start of the SLVIA process for the Wind Farm. Given this, and as LDA Design was the author of the new methodology; it was originally agreed with SNH and Highland Council that it should be utilised for the SLVIA to enable the identification of the baseline seascape character. However, for unknown reasons, this new guidance has remained unissued and, in order to avoid confusion, the seascape assessment has used a

seascape baseline determined by both the existing GSA (2001) guidance as well as the emerging Natural England (NE)/SNH guidance as originally agreed.

27. It should be noted that the wireframe production methods and software resolutions limitations always mean that they tend to over-scale the actual size of turbines. They also suggest a level of visibility that exceeds that likely to be encountered in reality as they make no allowance for the effects of distance in reducing visual clarity.

28. ZTV plans are a key tool in the assessment process and also have a range of limitations in their accuracy affecting the way in which they should be interpreted. Bare ground ZTVs only model in terrain base data and thus always present an exaggerated impression of potential visibility. Whilst ZTVs that model in the screening effects arising from key areas of settlement and vegetation better assist in producing a more realistic ZTV they still exaggerate the extents of visibility given that the data sets used do not identify all vegetation or all settlements and built form. Further reference on graphic limitations is set out in Appendix 14.2.

14.2.4.5 Surveys

29. The assessment was undertaken using published Geographical Information Systems (GIS) datasets including SeaZone Data, OS digital terrain model data, OS mapping at 1: 50,000 and 1:25,000 scale and aerial photography. All technical data for the Wind Farm was provided by BOWL.

30. Site visits were carried out in December 2010 to establish the seascape, landscape and visual baseline and July 2011 for assessment work.

31. The list below records the main published survey information that was used in the assessment:

- Horner & Maclennan (2005) Beatrice Demonstrator Wind Turbines LVIA;
- SNH (2005) An assessment of the sensitivity and capacity of the Scottish seascape in relation to windfarms;
- SNH (1998) Caithness and Sutherland Landscape Character Assessment; and
- SNH (1970) Beaches of Caithness.

14.2.4.6 Meteorological Context

32. The judgements made in the assessment of seascape, landscape and visual effects are based on clear visibility of the turbines. However, it should be acknowledged that this is worst case scenario and in reality the degree and extent of visual effects arising from the Wind Farm is an amalgam of many different factors, not least the prevailing weather conditions. These can determine changes in character and visibility, with varied wind, light and tidal movements and the clarity or otherwise of the atmosphere. Collectively, these will combine to reduce the number of days upon which views of the Wind Farm will be available from the coastline and hinterland, or to inhibit views of the Wind Farm, rendering it more visually recessive within the wider seascape.

33. A two year period of meteorological data from Wick Airport was made available to inform average visibility for the Study Area. The data has recorded visibility up to 10 NM (approximately 18.5 km) on an hourly basis over two years. The monthly averages are presented in Appendix 14.6.

34. Analysing the data sets shows that there are no noticeable strong trends across the year. The Wind Farm lies approximately 18 km from Wick; therefore the measurements at 10 NM are appropriate to reference. This showed that visibility within those two years up to and over 10 NM on average occurs for 66.5% of the year, with highest monthly visibility of 81% of the time and lowest 33% of the time.

35. Overall, although the data is fairly limited, it can be confidently concluded that the Wind Farm will not be seen 100% of the time from land and this is an important factor that should be taken into account in the assessment of the effects upon the landscape/seascape character and visual receptors. The availability of distant views will also be influenced by the seasonal variations and contrasts in daylight hours that exist at this northerly latitude.

14.3 BASELINE DESCRIPTION

36. The Wind Farm site is located 13.5 km east of the Caithness Coast, the closest point of landfall being near the small village of Sarclet, south of Wick. The majority of the 40 km Study Area lies within the Moray Firth, but also encompasses an area of the Highlands landscape. This land primarily comprises the Caithness and Sutherland coast and hinterland.

14.3.1 POLICY AND PLANS

37. This section identifies the relevant national and local planning policy and those statutory and non-statutory designations that apply to the Study Area in relation to landscape, seascape and visual issues. Please refer to Figure 14.4 which identifies the landscape policy context. Please also refer to Section 2: Climate Change and Marine Policy Context which provides a fuller summary of the existing terrestrial and marine policy environment.

14.3.1.1 Renewable Energy

38. The Scottish Planning Policy (SPP) 'Renewable Energy' sets out how the planning system should support the development of renewables and the development of spatial frameworks taking into consideration the many relevant factors including landscape and visual effects. Specifically under the heading Wind Farms, it states that "*the design and location of any Wind Farm development should reflect the scale and character of the landscape. The location of turbines should be considered carefully to ensure that the landscape and visual effect is minimised.*" Whilst referencing the landscape, this statement is also relevant to the Wind Farm's offshore location. The initial design processes and also final design will, based on the findings of the Seascape, Landscape and Visual Effect Assessment (SLVIA), ensure that the above statement is considered.

39. At a more local scale, Highland Structure Plan (2001) identifies its renewable energy policies under Policy E2: Wind Energy Developments which states that "*Wind*

energy proposals will be supported provided that effects are not shown to be significantly detrimental. In addition to the General Strategic Policies, wind energy proposals will be assessed in respect of visual effect, and cumulative effects."

14.3.1.2 Landscape Designations

40. SPP 'Landscape and Natural Heritage' gives guidance on how the Government's policies for the conservation and enhancement of Scotland's natural heritage should be reflected in land use planning. It outlines the aims of national and local landscape and natural heritage designations which are quoted below:

> "*Different landscapes will have a different capacity to accommodate new development, and the siting and design of development should be informed by local landscape character.*"
>
> "*Landscapes and the natural heritage are sensitive to inappropriate development and planning authorities should ensure that potential effects, including the cumulative effect of incremental changes, are considered when preparing development plans and deciding planning applications. While the protection of the landscape and natural heritage may sometimes impose constraints on development, with careful planning and design the potential for conflict can be minimised and the potential for enhancement maximised.*"

41. Under the above national policy the Highland Structure Plan (2001) 'Recommendation L2 Review of National Scenic Areas' identifies National Scenic Areas and AGLVs (Areas of Great Landscape Value). Details of the relevant AGLVs within the Study Area are described below. There are currently no National Scenic Areas within the Study Area or within immediately adjacent landscapes.

Areas of Great Landscape Value

42. The Highland Structure Plan (2001) identifies two proposed AGLVs which lie within the 40 km Study Area (see Figure 14.4):

- Duncansby Head; and
- Morven and Scaraben.

43. A description of these AGLVs and their sensitivity to the type of development proposed is defined in Sections 14.3.3 below.

Search Areas of Wild Land

44. The Scottish Government's National Planning Framework for Scotland recognises the importance of wild land, stating "*Some of Scotland's remoter mountain and coastal areas possess an elemental quality from which many people derive psychological and spiritual benefits. Such areas are very sensitive to any form of development or intrusive human activity and great care should be taken to safeguard their wild land character.*"

45. Annex 1 of SNH's policy statement 'Wildness in Scotland's Countryside' identifies where the main areas of wild land in Scotland are likely to be found and named a number of Search Areas for Wild Land (SAWL) within the Highlands. One of these SAWLs falls partially inside the 40 km Study Area (see Figure 14.4), located within

the peatlands of the Flow Country. This SAWL covers an area similar in extent to the proposed Morven and Scaraben AGLV. Please refer to Section 14.3.3 below which defines the sensitivity of the SAWL to the type of development proposed.

14.3.2 BASELINE SEASCAPE ENVIRONMENT

46. At a national level, the SNH (2005) report identifies one main seascape unit within the 40 km Study Area: 'Area 7: East Caithness and Sutherland'. Using the character types identified within the national unit, and also following the 'Guide to Best Practice in Seascape Assessment' (GSA, 2001) guidance the coastline was divided into five regional seascape units for the purposes of this assessment. A further three seascape character types were identified following the emerging Natural England/SNH guidance (see Appendix 14.2 for details on this methodology). Please refer to Figures 14.5 and 14.6 for the location of the seascape units and types. An overview of each seascape unit and character type is presented below and is summarised in Tables 14.2 and 14.3 along with their sensitivity to the type of development proposed. A full description of the national unit and each regional unit and types can be found in Appendix 14.3 and are summarised below.

14.3.2.1 National Seascape Unit

47. The Wind Farm resides within the East Caithness and Sutherland National Seascape Unit (NSU). As the GSA advises that the appropriate scale of assessment for offshore infrastructure projects is the regional scale, details on the NSU and its sensitivity are retained within Appendix 14.3.

14.3.2.2 Regional Seascape Units (RSUs)

Remote High Cliffs - Duncansby Head to Skirza Head

48. This regional seascape unit lies at the north of the 40 km Study Area, approximately 33 km from the proposed Wind Farm at its closest point. It includes the Duncansby Head AGLV and coastal ecological designations. It is primarily defined by the relatively remote land and sea extents divided by intricate high cliffs which include dramatic elements such as the Stacks of Duncansby and Thirle Door. The land extent of the unit varies from a narrow band in the north to a wide sweeping band in the south, dictated by the coastal developments and topography. Overall, this seascape has an open, remote and harmonious character with few disparate elements. The sensitivity of this seascape unit to the type of development proposed is judged as high.

Rocky Coastline - Skirza Head to Keiss

49. This regional seascape unit extends approximately 8 km north from Sinclair's Bay to Skirza Head, at its closest point it is 28 km from the Wind Farm. This unit continues the rocky cliff coastline from the north, however, differentiating it to the Duncansby Head to Skirza Head unit, the topography is lower and the land extents more populated, including the A99 coastal road. It also includes a small area of deposition coastline at Freswick Bay. Inland undulating moorland prevents extensive land to sea views, but coastal views to the remote north and more development south are a characteristic. In summary, this seascape unit is relatively

densely settled with an open exposed character (excluding Freswick Bay). The lower topography and resulting settlement pattern have created a strong relationship to the sea and coast. The sensitivity of this seascape unit to the type of development proposed is judged as medium.

Deposition Coastline - Sinclair's Bay

50. Sinclair's Bay is a large, well defined easterly facing sandy beach between rocky cliff lines to the north and south. The landward extents of this regional seascape unit lie just beyond 20 km from the proposed Wind Farm at its closest point, and extend for approximately 5 km inland. The curved bay is enclosed by the rocky headlands at Tang Head to the north and Noss Head to the south. The beach is backed by sand dunes which have gradually become reclaimed as farmland and also as a golf course. The dunes and adjacent coniferous plantations and settlement patterns prevent extensive views inland. Overall, this seascape unit is more enclosed than elsewhere within the Study Area due to the landform and shape of coastline. However, expansive sea views directly from the coastline to the east and north are a characteristic. The sensitivity of this seascape unit to the type of development proposed is judged as medium.

Rocky Coastline - Noss Head to Berriedale

51. The Wind Farm will lie within the outer sea extents of this regional seascape unit. The land extents of the unit stretch 45 km from Noss Head to Berriedale, along a rocky coastline with a clear pattern of human activity to the coastal edge, including the town of Wick. Inland, the seascape unit extends up to 10 km between the sweeping moorland. Within the Study Area this seascape unit is the most settled part on land and with the most active seascape associated with the coastal villages and harbours and offshore rigs and turbines. The main transport corridors of the A9 and A99 follow the coastline and existing onshore turbines are features of the area. It is overall an exposed but complex and active area where views of the sea are a large part of the character. Settlement tends to shelter on hillsides and valleys away from the sea. The existing wind farms, transport corridors and visible offshore industry reduce the sensitivity of the unit to the type of development proposed and therefore the sensitivity is judged as medium to low.

Narrow Coastal Shelf - Berriedale to Helmsdale

52. The extension of the mountainous region close to the coast distinguishes this part of the coastline from the Noss Head to Berriedale seascape unit to the north. The Berriedale to Helmsdale regional seascape unit extends for approximately 10 km between Berriedale and Helmsdale, and is 30 km at its closest to the Beatrice Offshore Wind Farm. As the name suggests, the land extents can be defined to a narrow shelf along the coast, although intervisibility with the sea from the top of the encroaching promontories is possible. The land falls sharply towards the coastline with near vertical embankments before exposed rocks. Settlement is sparse due to the topography and the main A9 road winds its way through the undulations enclosed by forestry only giving glimpse or framed views of the sea. It is a relatively remote seascape unit with a dramatic backdrop to the coast.

Expansive sea views are only available consistently from the top of the mountains and also the immediate coastline where human access is very limited. Inland, sea views are more restricted and framed. It is therefore judged that the sensitivity of this regional seascape unit to the type of development proposed is medium to low.

14.3.2.3 Regional Seascape Character (RSC) Types

Coastal Waters

53. This seascape character type occurs along the majority of the East Caithness coast, and lies at the western boundary of the proposed Wind Farm site. The type extends offshore from Golspie in the south to Duncansby Head in the north. The key defining aspects of this seascape character type are the perceived remoteness, sparse coastal settlement and relatively low level of shipping. The Coastal Waters seascape character type is considered to have an overall medium sensitivity to the type of development proposed due to its open and remote nature, ecological value, historic character and geological features. This takes account of the existing oil platforms, turbines and the presence of declined harbours along the coastline which already form part of the character of the seascape type.

Inshore Waters

54. The proposed Wind Farm is located within this seascape character type, which occupies the central region of the Moray Firth. The sand banks within parts of this area have determined locations of industry, fishing and also influenced shipping routes. The Inshore Waters are a relatively indistinct seascape, apart from the presence of the offshore industry. The sensitivity of the Inshore Waters seascape character type to the type of development proposed is therefore considered low.

Deep Sea Fishing and Shipping Regional Seascape Character Type

55. This seascape character type arises east of the proposed Wind Farm site and occupies an area offshore that lies parallel to Rosehearty to the south and Duncansby Head to the north. The Deep Sea Fishing and Shipping seascape character type is primarily defined by its role as a main navigational route, but also the offshore oil and gas industry. The sensitivity of this seascape character type to the type of development proposed is therefore considered low.

56. A summary of the seascape baseline is presented in Table 14.2 below.

Table 14.2 Summary of Seascape Character

National Seascape Unit / Regional Seascape Unit / Regional Seascape Character Type	Approximate distance between seascape (landfall if applicable) and nearest turbine	Sensitivity to the type of development proposed
East Caithness and Sutherland (NSU)	0 km	Medium to Low
Duncansby Head to Skirza Head (RSU)	33 km	High
Skirza Head to Keiss (RSU)	28 km	Medium
Sinclair's Bay (RSU)	20 km	Medium
Noss Head to Berriedale (RSU)	13.5 km	Medium to Low

National Seascape Unit / Regional Seascape Unit / Regional Seascape Character Type	Approximate distance between seascape (landfall if applicable) and nearest turbine	Sensitivity to the type of development proposed
Berriedale to Helmsdale (RSU)	30 km	Medium to Low
Coastal Waters (RSC)	0 km	Medium
Inshore Waters (RSC)	0 km	Low
Deep Sea Fishing and Shipping (RSC)	10 km	Low

14.3.3 BASELINE LANDSCAPE ENVIRONMENT

14.3.3.1 Landscape Character Types

57. The SNH (1998) Caithness and Sutherland Landscape Character Assessment identifies character types, 12 of which lie within the agreed 40 km Study Area and are illustrated on Figure 14.7. The Wind Farm will not have any direct effects on these landscape character types. However, on account of the fact that turbines are tall vertical and moving features, there is the potential for some landscape character types to have a visual sensitivity towards them and therefore there is potential for indirect effects upon them. The following paragraphs provide an overview of the key characteristics of each of the 12 landscape character types and define their sensitivity to the type of development proposed, which is also summarised in Table 14.3 below. A full character description of each type can be found in Appendix 14.4.

Sweeping Moorland

58. The Sweeping Moorland character type, characterised by open flat undulating landform, is widespread throughout the Study Area. The sensitivity to the type of development proposed is considered medium to low as although the simple visual composition and open landscape allows a high degree of visibility, there are very limited sea views, and turbines are an existing part of the character.

Flat Peatland

59. The Flat Peatland landscape character type is similar to the Sweeping Moorland but has a more open, flatter landform which creates a high level of exposure and panoramic visibility. It is found in several inland areas across the Study Area. The sensitivity to the type of development proposed is considered medium to low as like the Sweeping Moorland type, although an expansive landscape, views to the coast and sea are not a characteristic, and in addition coniferous plantations and existing turbines break up the exposure and remoteness.

Moorland Slopes and Hills

60. The Moorland Slopes and Hills landscape character type lies mainly within the southern western extents of the Study Area with an area inland between Lybster and Dunbeath. It is the transitional area between the low lying areas and the mountains with a contrast of enclosure and openness created by the varying slopes, woodland cover and settlement. The sensitivity to the type of development proposed of the Moorland Slopes and Hills is considered medium as although

coastal views are a characteristic they are limited by woodland enclosure and the landform.

Lone Mountains

61. The Lone Mountains character type consists of individual mountains and within the Study Area the main occurrence of this landscape character type is the range of peaks that include Maiden Pap and Scaraben. They are an exposed landscape with a strong presence over their surroundings. The sensitivity to the type of development proposed is considered high for this landscape character type as extensive views to the surrounding landscape and seascape are a key characteristic of these remote mountains.

High Cliffs and Sheltered Bays

62. Comprising of long narrow strips of land and coastline, the High Cliffs and Sheltered Bays landscape type occurs at the northern and south western extents of the Study Area. It is an overall exposed landscape which includes the main coastal road and settlements at intervals along much of its length. The sensitivity of the High Cliffs and Sheltered Bays to the type of development proposed is considered high as the coastal setting and sea views are a key characteristic.

Long Beaches, Dunes and Links

63. The Long Beaches, Dunes and Links landscape type occurs only at Sinclair's Bay within the Study Area. The sensitivity to the type of development proposed on this character type is considered medium as whilst open sea views are a characteristic the bays and dunes do provide some enclosure and there is also a degree of existing coastal development associated with recreational and industrial activity.

Strath

64. The Strath landscape character type is confined to a single region of the Study Area, to the south west of Dunbeath. It is characterised by linear channels of low lying land that lie between the open moorland and hills. The sensitivity to the type of development proposed is considered low due to the linear enclosed nature of this landscape character type, where views are largely contained within the Strath.

Coastal Shelf

65. The Coastal Shelf landscape character type appears in small separate elevated areas within the south of the Study Area. It is largely agricultural land interspersed with infrastructure and settlement, with a strong relationship to the coast. The sensitivity to the type of development proposed is considered high to medium as although open sea views are a characteristic of this landscape type, they are limited to some degree by the cliff landform, and prominent man-made influences such as service routes and settlements.

Harbours

66. The main harbours within the Study Area lie at Wick, Dunbeath and Helmsdale and tend to have a simple visual composition at a broad scale, with a range of complex features at a close range which often form the focal points within the view.

Views within these harbours are often contained by the layout of harbour walls and the surrounding landform. The sensitivity of this landscape character type to the type of development proposed is therefore considered low.

Open Intensive Farmland

67. The Open, Intensive Farmland landscape character type within the Study Area mainly extends around the town of Wick and with smaller isolated areas further inland. It is characterised by a wide open landscape which gently undulates and is ordered by large regular field patterns punctuated by farm buildings and shelterbelts. The sensitivity to the type of development proposed is considered medium as although extensive views area available, the large scale landscape, and existing views of wind turbines reduce the sensitivity.

Mixed Agricultural and Settlement

68. The Mixed Agriculture and Settlement landscape character type covers an extensive region of the Study Area, to the north west of Wick. It is a simple agricultural landscape strongly influenced by human activity. The sensitivity to the type of development proposed is considered low due to the complex, slightly fragmented character of this landscape, including existing wind turbines, where views to the wider landscape are not a key characteristic.

Small Farms and Crofts

69. The Small Farms and Crofts character type occurs within much of the coastal region of the Study Area and with some smaller areas inland. The sensitivity to the type of development proposed is considered medium as whilst views of the sea and coast are a part of the character, the complex and fragmented nature of the landscape with areas of enclosure and dereliction is dominant.

14.3.3.2 Designated Landscapes

70. As illustrated on Figure 14.4, two AGLVs and a SAWL lie within the Study Area.

Duncansby Head AGLV

71. The Duncansby Head AGLV lies within the Sweeping Moorland and High Cliffs and Sheltered Bays landscape character types and also the Duncansby Head to Skirza Head seascape unit. The designation extends in an approximate 1 km coastal band from Duncansby Head to Wile Geo in the south. The Stacks of Duncansby which are a rock formation along the coastline are the key focal point within the designation. Although only a county level designation, it is judged that the AGLV will have a high sensitivity to the type of development proposed due to its intactness and relative remoteness, with a strong relationship to the sea.

Morven and Scaraben AGLV

72. The Morven and Scaraben AGLV covers large areas of several inland landscape character types but primarily the Lone Mountains and Sweeping Moorland. The overriding character of this area is one of remoteness, elevation, and exposure which is also confirmed by almost all the AGLV being part of the Peatlands SAWL.

Both designations are judged to have a high sensitivity to the type of development proposed due to these characteristics.

Search Area for Wild Land (SAWL)

73. The study area embraces a SAWL inland of the coastal fringe between Helmsdale to the south and Lybster to the north. This is an elevated area of landscape and substantially overlaps with the Morven and Scaraben AGLV. As such, as an area of landscape, it exhibits the same landscape characteristics and sensitivity to the type of development proposed, this being judged to be high.

Table 14.3 Summary of Landscape Sensitivity

Landscape character type/ Designation	Closest distance to nearest turbine	Sensitivity to the Wind Farm
Sweeping Moorland	17 km	Medium to Low
Flat Peatland	19 km	Medium to Low
Moorland Slopes and Hills	24 km	Medium
Lone Mountains	32 km	High
High Cliffs and Sheltered Bays	30 km	High
Long Beaches, Dunes and Links	23 km	Medium
Strath	30 km	Low
Coastal Shelf	34 km	High to Medium
Harbour	17 km	Low
Open, Intensive Farmland	16 km	Medium
Mixed Agriculture and Settlement	15 km	Low
Small Farms and Crofts	13.5 km	Medium
Duncansby Head AGLV	33.5 km	High
Morven and Scaraben AGLV	27 km	High
Search Area for Wild Land	29.5 km	High

14.3.4 BASELINE VISUAL ENVIRONMENT

74. The ZTV within the 40 km Study Area was analysed to identify visual receptors which have the potential to be affected by the Wind Farm. These included onshore receptors such as local residents, those travelling through the area and those visiting the area for recreational and amenity purposes. Offshore receptors included those travelling, working on boats or oil/gas rigs, and recreational sailors. The following sections introduce the key receptor types. Following the identification of these receptor types viewpoints were selected to enable an assessment of the baseline visual environment and an assessment of the potential effects arising from the Wind Farm to be made. The principal visual receptor group for each representative viewpoint is identified as is the sensitivity of that receptor to the type of development proposed.

14.3.4.1 Residents

75. Local residents are judged to have a generally high level of sensitivity to the type of development proposed where they have views of the site from their properties. The selected viewpoints assess specific villages and towns within the Study Area.

14.3.4.2 The Travelling Public

76. This category of visual receptors includes those who travel to or through the Study Area, both on land and at sea. It is considered that motorists will have an average medium to low level of sensitivity to the type of development proposed, depending upon the purpose and objective of the traveller, on account of the transitory nature of views in any one direction. Further detail on different levels of sensitivity for different modes of travel is given in Appendix 14.2: Assessment Methodology. An overview of the key receptors within this category is discussed below. Viewpoints including roads and ferry routes within the Study Area are discussed in Section 14.3.4.4.

Roads

77. There are several main roads throughout the Study Area. The A9 links Caithness and Sutherland to the south, following the coastline from Helmsdale to Latheron where it redirects cross country to reach Thurso. From Latheron, the A99 runs along the coast to John O' Groats. These two roads form the main transport corridor within the Study Area, with scenic views of lone mountains and the coastline at many locations along the route. In addition, the A882 runs cross country between Wick and Halkirk. A network of B roads and minor roads link rural settlements and provide access to coastal areas, becoming sparser in the more remote moorland and mountainous regions to the south west. The methodology (see Appendix 14.2) attributes different levels of sensitivity to different grades of motorists: those using major trunk roads being deemed to have a low level of sensitivity to the type of development proposed, users of A-roads having a low to medium sensitivity whilst local road users will have a medium level of sensitivity.

Rail

78. Within the Study Area there is a stretch of railway line which connects Wick to Thurso and Inverness. This section of the railway line lies inland following the River Wick's shallow valley to the coast. Rail users are attributed a low level of sensitivity to the type of development proposed, largely on account of the travel speed involved and the focus of their views.

Public Paths

79. The region is popular with walkers and contains an extensive network of footpaths and hill walking routes. Whilst there are no national long distance routes for walkers within the Study Area, locally important routes include coastal paths around Lybster and the signposted route to the viewing point at Duncansby Head.

80. The Study Area also contains a number of regionally designated Heritage Paths along the coastline which have been created to link objects and sites of the region's industry and cultural heritage. As stated in Appendix 14.2, cyclists and footpath

users are assessed under the heading of "visitors" and as such are deemed to have a high sensitivity to the type of development proposed.

National Cycle Routes

81. Part of the northernmost stretch of the National Cycle Route 1, which is a long distance cycle route connecting Dover to Shetland, runs inland at the outer extents of the study area and along the northern Caithness coastline to John O' Groats. As stated in Appendix 14.2, cyclists and footpath users are assessed under the heading of "visitors" and as such cyclists are judged to have a high to medium sensitivity to the type of development proposed.

Ferry Routes

82. A number of ferry routes run between the Scottish Mainland and the Orkney Isles. Regular ferries run between Gills Bay and St Margaret's Hope, John O' Groats and Stroma, Aberdeen and Stromness, and Aberdeen and Kirkwall. Those making passage by sea are deemed to have a medium to low sensitivity to the type of development proposed.

Visitors and the Tourism/Amenity Resource

83. This category embraces a wide variety of individual visual receptor groups whose principal preoccupation is with the enjoyment of the outdoor environment, the open countryside and the tourism / amenity resource the coastline offers and these receptors are identified as having a high sensitivity to the type of development proposed. These engaged in differing amenity/recreational activities will have different objectives, and thus differing levels of sensitivity to any change in the fabric or the character of the landscape types, seascape units and visual effect arising from the Wind Farm. Collectively the sensitivity of this receptor group is likely to vary between high and medium.

84. Tourism is recognised as an important element in the local and regional economy. Tourism is in part dependent upon high quality coastlines and seascapes as valued recreational resources. People in this receptor group include users of footways and cycleways and visitors to coastal facilities, golf courses and beaches, accommodation including hotels, caravan and camp sites; car parking; water sport and sailing centres.

85. Widely regarded as the most northerly settlement on the UK mainland, John O'Groats is a much visited tourist attraction. Other regional attractions include Duncansby Stacks and Sinclair's Bay. There are also numerous historic, archaeological and geological sites that attract visitors throughout the Study Area and along the coastline.

Recreational Sailors

86. The RYA UK Coastal Atlas of Recreational Boating (RYA, 2009) illustrates the cruising routes in the Study Area (Section 18: Shipping and Navigation) which are mostly 'medium' recreational use which means that they are '*popular routes on which some recreational craft will be seen at most times during summer daylight hours*.' There are some 'light' routes which are defined as '*routes known to be in common use but*

which do not qualify for medium or heavy classification.' Routes are shown between Wick, Lybster, and Dunbeath to various places along the Morayshire and Aberdeenshire coasts, and also to Orkney and beyond, with other routes from further afield in outer waters. Recreational sailors are deemed to have a high to medium sensitivity to the type of development proposed.

14.3.4.3 Workers

87. Workers are generally less sensitive to effects as they are focussed on the tasks they are carrying out. Indoor workers generally have a low sensitivity, and outdoor workers, such as farmers, fishermen, and those working outdoors on the oil/gas platforms are considered to have a medium to low sensitivity.

14.3.4.4 Representative Viewpoints

88. To help define the existing visual baseline environment, 14 land-based and two offshore viewpoints were selected to represent a variety of the above key receptors which lie within the 40 km radius ZTV. These were discussed and agreed with SNH and HC. Please refer to Figure 14.8 for the viewpoint locations and Figures 14.13 to 14.26 for the viewpoint photographic panoramas for the land based viewpoints. Please note that, with the agreement of the consultees, only wireframes were produced for the offshore viewpoints and thus the assessment is based upon a desk top review of the wireframes and an understanding of the existing baseline environment. The baseline description of all the viewpoints is presented below. Table 14.4 below lists the viewpoints, their distance from the Beatrice Offshore Wind Farm, the seascape unit, main receptor and their sensitivity to the type of development proposed (as determined by the above sensitivities).

89. In addition, photomontages of night views from the viewpoints at Wick and Dunbeath, as two of the larger coastal settlements within the study area, were created at the request of SNH to illustrate the potential lighting effects of the Wind Farm. The existing night-time photo-panoramas are presented in Figures 14.27 – 14.28.

Viewpoint 1 – Duncansby Head (Figure 14.13)

90. Duncansby Head is a popular viewpoint located 36.74 km north of the Wind Farm, which lies within the '*High Cliffs and Sheltered Bays*' landscape character type, and the '*Remote High Cliffs – Duncansby Head to Skirza Head*' regional seascape unit.. The view is representative of that available to visitors to the area. The viewpoint is reached via a single track road that passes through an undulating landscape of medium to large fields, demarcated by post and wire fencing. A footpath runs south from the Lighthouse at Duncansby Head towards the Stacks of Duncansby. The viewpoint was taken near the trig point on this route where a 360 degree view can be seen.

91. To the north, the Orkney Islands can be seen, with the Island of Stroma and the Outer Islands clearly visible across the Pentland Firth. To the south, the key focus of the view is the Stacks of Duncansby and Thirle Door against a backdrop of high cliffs and open moorland along the coastline. To the west, views are of open sea and

to the east John O' Groats and Dunnet Head can be seen across a largely rural landscape populated with small scattered settlement and crofts. The viewpoint is located at the north eastern tip of the Scottish mainland and the North Sea is a main feature of the view. It is a largely harmonious view with limited human influence disrupted by the presence of the lighthouse buildings within the immediate setting and masts in the skyline. Overall the panoramic views from Duncansby Head offer a tranquil setting with contrasting views to the north and south.

92. The sensitivity to the type of development proposed of the key receptor group of visitors is considered high.

Viewpoint 2 – Keiss Pier (nr Keiss Harbour House) (Figure 14.14)

93. This viewpoint is located on a local road leading to the small pier that forms part of the historic harbour in the village of Keiss, located 27.35 km north west of the Wind Farm. The viewpoint lies within the '*Small Farms and Crofts*' landscape character type and the '*Rocky Coastline – Skirza Head to Keiss*' regional seascape unit. It is representative of views available to local residents and also fishermen and recreational users of the harbour.

94. The views from this more elevated location are broader (360 degrees) than those available from the pier below, and are defined to the south by the harbour walls and mainland beyond the bay and to the north by locally undulating topography. From the viewpoint location, Keiss Castle and the former ruins can be seen to the north east across coastal rough grazing land enclosed by post and rail fencing and extensive stonewalls. To the south, the lighthouse atop Noss Head forms a distinctive landmark across Sinclair's Bay. Stone cottages and settlement at Keiss are visible to the north west, with small farms and crofts scattered throughout a largely exposed rural landscape to the north and north east.

95. Human influences are readily apparent with newer houses, conifer plantation, pylons and telecom masts clearly visible along the skyline from the outskirts of Keiss, to the north and west, and to the south on the far side of the bay. Turbines at Achairn and Flex Hill are also just visible behind the bay. However, the view is not on the whole discordant due to the presence of local materials and historical building styles combined with the expansive sea views.

96. The sensitivity to the type of development proposed of the key receptor group of local residents, and workers, is considered to range between high for residents and medium to low for the workers and recreational users of the harbour.

Viewpoint 3 – Sortat (Figure 14.15)

97. Sortat and Lyth consist of a linear dispersed settlement along the local road, north west of Wick. It lies within the '*Mixed Agriculture and Settlement*' landscape character type and is located 32.49 km from the Wind Farm. The view is taken from the local road, just west of the Lyth Arts Centre and is representative of views available to local residents.

98. The landscape seen is broadly typical of the character type; however it is perhaps slightly more coherent in composition than elsewhere with a defined field and

woodland pattern including stone walls, post and wire fence, hedgerows and broadleaf woodland. Blocks of coniferous woodland can be seen in the distance.

99. The gently undulating landform and relatively high level of woodland and hedgerows preclude expansive or long distant views. Although the sea is not visible, Noss Head lighthouse can be seen from this viewpoint on the headland in the distant horizon.

100. The sensitivity to the type of development proposed of the key receptor group of local residents is considered high.

Viewpoint 4 – Scalesburn, Wick Bay (Figure 14.16)

101. This viewpoint is located in Wick, the only major town along the east coast of Caithness, 18.04 km north west of the Wind Farm. The viewpoint is located in the 'Rocky *Coastline – Noss Head to Berriedale'* regional seascape unit. The viewpoint is situated on a residential street, close to the start of a local coastal footpath (currently closed), which lies to the west of North Head and directly above the working harbour. It is representative of views available to local residents. From this location, panoramic views are available however views to the north are limited by the adjacent housing development and rising ground.

102. To the south and west there are panoramic views of Wick Bay, the harbour and the town beyond. In the near distance the view is dominated by the harbour walls and structures associated with commercial fishing and port services, with longer views towards the town centre and Old Wick. To the east, steep-sided ground either side of the bay frames and focuses the view out to the North Sea. Views of the harbour and towards the town include prominent vertical features such as harbour and street lighting, telegraph poles, telecommunications masts in addition to less discordant elements such as the obelisk memorial near South Pier, a number of historic spires and an early 20th century brick chimney. The town is a historic settlement and destination for visitors to the region.

103. The sensitivity to the type of development proposed of the key receptor group of local residents is high.

Viewpoint 5 – Sarclet (Sarclet Haven info board) (Figure 14.17)

104. Sarclet is the closet point onshore to the Wind Farm, located 13.93 km west of the site within the '*Small Farms and Crofts'* landscape character type and *'Rocky Coastline – Noss Head to Berriedale'* regional seascape unit. The view is representative of that available to local residents and visitors to the coastal location. The viewpoint is situated at the south eastern extent of the settlement and is accessible by the main road that runs through the village. The viewpoint is located on elevated rough ground above a small cove, a natural harbour known as The Haven formerly used by fishing boats, but now largely unused. The cove attracts recreational users and the viewpoint is popular with visitors interested in coastal wildlife.

105. To the north and west, views comprises small farms and crofts within a largely open rural landscape and the adjacent built up areas of the settlement, principally

modern houses of one or two storeys. There are several abandoned and ruined stone buildings.

106. Panoramic views out to sea are largely unspoilt and are the key feature of this viewpoint, although the adjacent housing and associated structures detract from the view to some degree. Overall, this viewpoint offers a harmonious outlook to sea with less attractive, more discordant views inland to the north and west.

107. The sensitivity to the type of development proposed of the key receptor groups of local residents and visitors is considered high for residents and high to medium for visitors.

Viewpoint 6 – Hill O' Many Stanes (Figure 14.18)

108. The Hill O' Many Stanes is a Scheduled Monument and visitor attraction located off the A99, 16.78 km from the Wind Farm. The stones are located on the southern slope of a low hill, in the scattered hamlet of Clyth, within the '*Small Farms and Crofts*' landscape character type and the '*Rocky Coastline- Noss Head to Berriedale*' regional seascape unit. The view is representative of that available to visitors.

109. The monument comprises of some 200 stones, arranged in 22 rows aligned in an approximate north-south direction. 360 degree views are available from this location. To the south west and west, the view comprises of gently undulating topography with medium size fields enclosed by post and rail fencing with small areas of moorland and higher ground due west. To the north, steeper ground and small farms and scattered crofts can be seen with a large block of commercial forestry prominent to the northwest of the view. Evidence of human influence is apparent within the view with telegraph poles ranging across the landscape and breaking the skyline.

110. The sensitivity to the type of development proposed of the key receptor group of visitors is considered high to medium.

Viewpoint 7 – Lybster (end of Main Street) (Figure 14.19)

111. Lybster is a small village historically very closely connected to the fishing industry, located along the A99, 19.27 km east of the Wind Farm. It lies within the '*Small Farms and Crofts*' landscape character type 'and the '*Rocky Coastline- Noss Head to Berriedale*' regional seascape unit. The viewpoint is taken in a residential area at the end of Main Street. The view is therefore representative of those available to local residents.

112. The semi-detached and terraced houses in the foreground are orientated with their fronts to the coast. There is also a large detached house with outbuildings which lies between these houses and the coast. The open grassy coastline and small headland can be seen in the background steeply sloping towards the sea and bringing the eye towards the horizon and the expansive sea views to the east and south of the view.

113. The active foreground elements which include the housing and areas of grazing with post and wire fencing contrast with the open and simple seascape behind.

114. The sensitivity to the type of development proposed of the key receptor groups of local residents is considered high.

Viewpoint 8 – Latheron (Figure 14.20)

115. This viewpoint is located along the A9 at the western extent of the settlement at Latheron, 22.98 km west of the Wind Farm within the '*Small Farms and Crofts*' landscape type and the '*Rocky Coastline – Noss Head to Berriedale*' regional seascape unit. The view is representative of travellers on the A9.

116. The A9 is the main transport corridor through the region and offers a scenic route along the coastline. From this location, panoramic views of the North Sea - with broad views of open water - are a key feature of the landscape. Small and medium fields demarcated with stone walls and post and rail fencing occupy the immediate foreground along this stretch of the coast. To the north and west, views are contained by gently undulating higher ground scattered with small farms and crofts – a largely open rural landscape with few trees and areas of open moorland. Human influence is apparent with vertical elements that include telegraph poles, telecommunication masts prominent across the landscape and along the ridgeline.

117. The sensitivity to the type of development proposed of the key receptor group of travellers is considered medium to low.

Viewpoint 9 – Dunbeath (Figure 14.21)

118. This viewpoint is located close to Dunbeath Heritage Centre along a local road off the A9, and lies within the '*Small Farms and Crofts*' landscape type and the '*Rocky Coastline – Noss Head to Berriedale*' regional seascape unit. The view is representative of those available to visitors of the heritage centre, and local residents. Panoramic views are available at this location, which lies 25.62 km west of the Wind Farm.

119. The sea is framed within a small part of the view with the dramatic incised valley of Dunbeath Water visibly cutting through the foreground to the coast. The road extends from the viewpoint to what appears to be a cliff edge but out of view it hairpins towards the bottom of the valley.

120. To the north and west the settlement of Dunbeath can be seen, located within a wider rural landscape of medium and small fields enclosed by stone walls and post and rail fencing and with areas of open moorland. The majority of houses in Dunbeath are predominantly positioned along the sheltered valley sides with a more dispersed settlement pattern on the more exposed areas along the main road. Scattered trees and shelterbelt planting provide localised screening close to houses and crofts. Pylons and telegraph poles are conspicuous features within the landscape. The turbines of the onshore wind farm at Boulfruich are also clearly visible when looking inland from this viewpoint.

121. The sensitivity to the type of development proposed of the key receptor groups of local residents, and visitors is considered high for local residents and high to medium for visitors.

Viewpoint 10 – Whaligoe Steps (Figure 14.22)

122. Whaligoe Steps are a well hidden historic feature located off the A99 in the coastal cliffs south of Sarclet Head, 15.33 km from the Wind Farm. It lies within the '*Small Farms and Crofts'* landscape type and the '*Rocky Coastline – Noss Head to Berriedale*' regional seascape unit. The view is representative of those available to local residents at Whaligoe and visitors to the steps.

123. The historic steps wind perilously down to a tiny sheltered harbour. The viewpoint was taken at the top of the steps where panoramic views are available. The landform sloping towards the cliffs frame the sea views to some extent which includes the oil and gas platforms and the Beatrice demonstrator turbines.

124. The surrounding landscape is uncomplicated with simply pasture fenced with post and wire which extends to the top of the cliffs. There are a series of small houses which lies at the entrance to the steps with outlooks towards the sea.

125. The sensitivity to the type of development proposed of the key receptor groups of residents is high and high to medium for visitors.

Viewpoint 11 – Scaraben (Figure 14.23)

126. This viewpoint is located on the summit of East Scaraben, one of the ranges of lone mountains within Caithness that includes Morven and Maiden Pap, and lies 33.06 km west of the Wind Farm. This viewpoint is visited mainly by hill walkers and often visited as part of a circular route that includes the other peaks within this range. The viewpoint is located within an AGLV and lies just outside a SAWL. The viewpoint is located in the '*Lone Mountains'* landscape character type.

127. It is a remote area with extensive 360 degree views available across Caithness and Sutherland and the Moray Firth. Views are therefore all encompassing and include a number of existing wind farm sites and other industrial features. The coastline is discernible but views towards the northern extents of Caithness and the Pentland Firth will be only visible on clear days.

128. The sensitivity to the type of development proposed of the key receptor groups of walkers is considered high to medium.

Viewpoint 12 – Navidale (Figure 14.24)

129. This viewpoint is located along an old part of the A9 just outside the settlement of Navidale, 38.05 km south west of the Wind Farm. The new stretch of A9 lies below to the east and can be seen curving up through the landscape in the north. The view is representative of those available to local residents at Navidale and also travellers on the nearby A9.

130. The viewpoint lies within the '*Coastal Shelf*' landscape character type and the '*Narrow Coastal Shelf - Berriedale to Helmsdale'* regional seascape unit. The area is typical of the type with an elevated plateau stepping down towards the rocky coastline with higher hills and mountains behind. The landform provides a natural viewing platform towards the sea and the majority of houses which lie along this road face are orientated as such.

131. The field patterns and old stone walls on the shelf below the viewpoint are clearly visible with the rising land behind providing a dramatic feature. The A9, pylons and masts are also visible on these hills. The landform directs the eye towards the open and expansive sea as it steps and slopes to the coastline. Offshore oil/gas platforms and the Beatrice demonstrator turbines are just discernible on the horizon.

132. The sensitivity to the type of development proposed of the key receptor groups of local residents is high, and medium to low for travellers.

Viewpoint 13 – Catchory (Figure 14.25)

133. Catchory is an area of dispersed farms and houses to the north east of Loch Watten, within the '*Mixed Agricultural and Settlement*' landscape character type. It lies 29.48 km from the Wind Farm. It is representative of the views available to local residents and farm workers.

134. Whilst in the same landscape character type as Sortat (Viewpoint 3) it is representative of a slightly more rural setting and flatter area. Large scale agricultural land extends from the view surrounded by mature hedgerows. Intermittent trees can be seen along field boundaries and some small areas of broadleaf woodland. Settlement is dispersed across the area and the wind turbines at Flex Hill and Achairn are visible towards the south east of the view. Power lines as smaller vertical elements criss cross the area. Large coniferous plantations expand across the landscape and can be seen in blocks on the distant horizon. There are no coastal or sea views available.

135. The sensitivity to the type of development proposed of the key receptor groups of local residents is considered high and medium to low for farm workers.

Viewpoint 14 – Minor Road, south side of Stemster Hill (Rumster Forest) (Figure 14.26)

136. This viewpoint is located on elevated ground along a minor road off the A9 and A99, 26.28 km west of the Wind Farm. It is representative of views available to travellers on this road. It lies within the '*Moorland Slopes and Hills*' landscape character type.

137. There is a bareness, and a slightly bleak feel to the view. It has a simple composition of commercial forestry and recently felled areas between open moorland which sweep across the view. Post and wire fencing delineates the single track road which extends towards the coast and pulls the eye towards a sliver of sea view. Mast and pylons are visible on high points within Rumster Forest to the south of the viewpoint. In the wider area there are many abandoned and ruined properties, adding to the remote feel.

138. The sensitivity to the type of development proposed of the key receptor groups of travellers is considered medium to low.

Viewpoints 15 and 16

139. Viewpoints 15 and 16 were taken at two points, along the approximate route of the Aberdeen to Orkney/Shetland ferry. The viewpoints lie 19.73 km and 29.74 km

respectively from the Wind Farm. These lie within the 'Deep Sea Fishing and Shipping' seascape character area. The sensitivity to the type of development proposed of the key receptor groups of travellers is considered medium to low. No photographs or site visits were taken at these points but wireframes were constructed and the effects are discussed in the assessment Section (Figure 14.42).

Table 14.4 Summary of Representative Viewpoints Sensitivity

Viewpoint		Distance to nearest turbine	Seascape RSU or Type / Landscape Type	Main receptors	Sensitivity to change
1	Duncansby Head	36.74 km	Duncansby Head to Skirza Head RSU/ High Cliffs and Sheltered Bays	Visitors	High
2	Keiss Pier	27.35 km	Rocky Coastline- Skirza Head to Keiss RSU / Small Farms and Crofts	Local Residents Harbour Users	High Medium to Low
3	Sortat	32.49 km	Mixed Agriculture and Settlement	Local Residents	High
4	Wick Bay	18.04 km	Rocky Coastline - Noss Head to Berriedale RSU	Local Residents	High
5	Sarclet	13.93 km	Rocky Coastline - Noss Head to Berriedale RSU / Small Farms and Crofts	Local Residents Visitors	High High to Medium
6	Hill O'Many Stanes	16.78 km	Noss Head to Berriedale RSU / Small farms and Crofts	Visitors	High to Medium
7	Lybster	19.27 km	Noss Head to Berriedale RSU / Small Farms and Crofts	Local Residents	High
8	Latheron (A9)	22.98 km	Noss Head to Berriedale RSU / Small Farms and Crofts	Travellers	Medium to Low
9	Dunbeath (nr Heritage Centre)	25.62 km	Noss Head to Berriedale RSU / Small Farms and Crofts	Local Residents Visitors	High High to Medium
10	Whaligoe Steps	15.33 km	Noss Head to Berriedale RSU/ Small Farms and Crofts	Local Residents Visitors	High High to Medium
11	Scaraben	33.06 km	Lone Mountains	Walkers	High to Medium
12	Navidale	38.05 km	Berriedale to Helmsdale RSU / Coastal Shelf	Local Residents Travellers	High Medium to Low
13	Catchory	29.48 km	Mixed Agriculture and Settlement	Local Residents Farm Workers	High Medium to Low
14	Minor Rd, Stemster Hill	26.28 km	Moorland Slopes and Hills	Travellers	Medium to Low
15	Aberdeen to	19.73 km	Deep Sea Fishing and	Travellers	Medium to

Viewpoint		Distance to nearest turbine	Seascape RSU or Type / Landscape Type	Main receptors	Sensitivity to change
	Orkney/Shetland Ferry Route		Shipping SCT		Low
16	Aberdeen to Orkney/Shetland Ferry Route	29.74 km	Deep Sea Fishing and Shipping SCT	Travellers	Medium to Low

14.4 DEVELOPMENT DESIGN MITIGATION

140. The inherent characteristics of the Wind Farm mean that there are very limited opportunities for incorporating mitigation measures for seascape, landscape and visual effects. Mitigation is also constrained by engineering and other technical issues to enable deliverability of the Wind Farm. However, beneficial mitigation has been embedded into the design of the Wind Farm wherever possible by ensuring, for example, a broadly uniform layout and the consistent height of turbines across the site, albeit the layout will be subject to any variations that might necessarily be required as a result of detailed micro-siting requirements.

141. This design of the Wind Farm including this embedded mitigation has been included in assessment of the Wind Farm throughout this Section.

14.5 ASSESSMENT OF POTENTIAL EFFECTS

142. The SLVIA is primarily concerned with the operational effects of the Wind Farm as these will have the most potentially significant effects due to the duration of this stage. The potential effects during operational phases on the seascape, landscape and visual amenity are discussed below. Please refer to Sections 14.5.8 for discussion on the seascape, landscape and visual effects during construction and decommissioning.

14.5.1 EFFECTS UPON SEASCAPE CHARACTER

143. Being sited out at sea, the turbines are to be placed within a receiving environment that has both the scale and simplicity of form to, not only accommodate the Wind Farm, but also to provide it with an appropriate contextual setting. Thus, although the turbines are in themselves of a substantial scale, visual aesthetics and the nature of the receiving environment, which includes an expansive horizon line, big skies, simple composition and linear form of views, and the general scale of the seascape, indicates that they are not inappropriate to offshore locations.

144. The assessment of the effects on the five RSU and the three seascape character types, this being the most appropriate scale at which to undertake the assessment in accordance with current guidance, is presented below. Please refer to Figures 14.5 and 14.6 for the seascape unit and seascape character type locations.

145. For the purposes of the assessment, the intervisibility of the Wind Farm with the seascape units and seascape character types was established using the ZTV plan modelled with obstructions (Figure 14.3). In addition, the wireframes and photomontages (Figures 14.13 – 14.42) produced for the visual assessment were

utilised as tools to aid the assessment and are referenced as appropriate throughout the section below.

14.5.1.1 Regional Seascape Units

Remote High Cliffs - Duncansby Head to Skirza Head

146. The ZTV illustrates that the intervisibility of the Duncansby Head to Skirza Head Regional Seascape Unit (RSU) with the Wind Farm is mainly within the sea to the south and south west of the RSU, the coastline immediately to the north of the RSU, and an inland area just north of Skirza. Intervisibility is prevented from the sea west of Duncansby Head by the projecting landform.

147. The Wind Farm is located approximately 33 km at its closest point to the landward element of the RSU, and beyond 50 km at its furthest. The Wind Farm will not directly affect the fabric of this seascape unit but will potentially be a visible element. However at this distance, the Wind Farm will not be a prominent feature and the key characteristics of this seascape unit will remain largely unchanged.

148. Therefore, it is judged that the magnitude of effect on the character of the RSU is low to negligible. As the sensitivity to the type of development proposed is considered high, the effect on the Duncansby Head to Skirza Head RSU was assessed as moderate to negligible, thus minor significance effect with no direct effects upon the attributes of this seascape unit, and only limited effects upon its characteristic views towards the south. As stated in the Assessment Methodology Section (Appendix 14.2), effects which are minor are not considered to be significant in terms of the EIA Regulations.

Rocky Coastline - Skirza Head to Keiss

149. This RSU extends for a short distance between Skirza Head and Keiss, defined from the north by the lower rocky cliffs, and cultivated and settled land. The landward element of this unit will be at closest 28 km from the Wind Farm.

150. The ZTV illustrates that there will be intervisibility between the RSU and the Wind Farm across the sea, and intermittently on land. On land, the low moss area is sheltered by higher land in the south which limits the intervisibility of the Wind Farm in this area. In addition, the area around Aukengill is enclosed by the surrounding higher landform and thus has no intervisibility with the Wind Farm.

151. The Wind Farm will be a noticeable feature in views to the south from the sea and the immediate coastline of this RSU. However, the distance of the Wind Farm to this RSU combined with the orientation of the coastline limits the potential intervisibility so that it will only be a minor alteration within some of the characteristic sea views, and the baseline situation will remain largely unchanged.

152. It was therefore judged that the magnitude of effect on the character of this RSU is low. As the sensitivity to the type of development proposed is considered medium, the significance of effect on the Skirza Head to Keiss RSU was assessed as moderate-minor, with no direct effects upon the attributes of this seascape unit. Effects which are moderate-minor are not considered to be significant in terms of the EIA Regulations.

Deposition Coastline - Sinclair's Bay

153. The ZTV shows that due to the bay formation and adjacent Noss Head, the intervisibility with the Wind Farm is limited to the seascape beyond the bay, and a margin of higher land behind the bay to the west. Long distant views to the south and south west towards the Wind Farm are not characteristic. The presence of the Wind Farm, at 20 km at its closest point to land within the RSU, will be a very minor alteration to these views and the characteristics of the RSU will be fundamentally unchanged.

154. It was therefore judged that the magnitude of effect on the character of the RSU is negligible. As the sensitivity to the type of development proposed is considered medium, the significance effect on the Sinclair's Bay RSU was assessed as negligible and therefore not significant in terms of the EIA Regulations.

Rocky Coastline - Noss Head to Berriedale

155. The Wind Farm lies within the outer sea extents of this RSU. The ZTV illustrates that the majority of this area will have intervisibility with the Wind Farm. On land, local topography, coniferous plantations and settlement will prevent some areas having open views of the turbines. However, the Wind Farm will be a feature within almost all available views and although turbines and offshore industry are an existing characteristic, the scale and extent of the Wind Farm will fundamentally change the baseline situation.

156. Therefore, it was judged that the magnitude of effect on the character of the RSU is high. As the sensitivity to the type of development proposed is considered medium to low, the significance effect on the Noss Head to Berriedale RSU was assessed as major-moderate to moderate and is therefore significant in terms of the EIA Regulations.

Narrow Coastal Shelf - Berriedale to Helmsdale

157. The ZTV illustrates that both the sea and coastline of this RSU will have intervisibility with the Wind Farm and with some limited areas inland. The Wind Farm will lie 30 km from the land extents of the RSU at its closest point. It will be a noticeable element within views from the open sea extents of the RSU, but the characteristics of the land and coastline will preclude constant or clear views of the Wind Farm from the land based extents of the RSU.

158. Overall, the available and relatively distant views of the Wind Farm will not alter the key characteristics that make up the Berriedale to Helmsdale RSU.

159. Therefore, it was judged that the Wind Farm will be a minor or very minor alteration to the key characteristics of the seascape so that the magnitude of effect on the character of the RSU is low to negligible. As the sensitivity to the type of development proposed is considered to be medium to low, the significance of effect on the Berriedale to Helmsdale RSU was assessed as moderate-minor to minor to negligible, with no direct effects upon the attributes of this seascape unit. The effects are therefore not significant in terms of the EIA Regulations.

14.5.1.2 Seascape Character Types (SCTs)

Coastal Waters

160. This seascape character type lies parallel to the Caithness Coast and extends approximately 15 km offshore from the coastline. Its eastern boundary lies at the edge of the Wind Farm. As shown by the ZTV, there will be continuous visibility of the Wind Farm across this entire seascape type.

161. Whilst not directly within the seascape character type, the proximity to the turbines will increase the perception of offshore activity within the area and will be a visible feature within the northern half of the unit.

162. As a result the Wind Farm, whilst not altering the physical attributes of the seascape character type, will alter the visual characteristics which are an important defining element of this SCT and therefore the magnitude of effect upon the Coastal Waters was considered to be high to medium. When combined with a medium sensitivity to the type of development proposed the overall significance of effect was assessed as major-moderate to moderate and is therefore significant in terms of the EIA Regulations.

Inshore Waters

163. The Wind Farm lies within the Inshore Waters seascape character type. It will be a dominant feature for the majority of the area and due to its size and scale it will become a defining feature contributing to the existing offshore activity.

164. It was therefore judged that the Wind Farm would be a major alteration to the character of the seascape type and therefore the magnitude of effect on the character of the Inshore Waters is high. As the sensitivity to the type of development proposed is judged to be low, the significance of effect on this character type was assessed as moderate[1] and is therefore not significant in terms of the EIA Regulations.

Deep Sea Fishing and Shipping

165. This seascape character type lies across the eastern extents of the Study Area, approximately 10 km from the Wind Farm at its closest point and extends east for an undefined distance. Primarily defined by its use as a navigational route, and the presence of oil and gas industry infrastructure, the Wind Farm will become a visual characteristic and navigation point for the closest parts of this area.

166. The seascape character type is an extensive area and only a small proportion will have significant intervisibility with the Wind Farm. As such the Wind Farm will only create an alteration to the visual characteristics of the seascape character type within localised areas which are closest to the Wind Farm. It was therefore considered that the magnitude of effect on the character of the seascape character type is medium, locally. As the sensitivity to the proposed change is considered

[1] As defined in the SLVIA Assessment Methodology (Appendix 14.2) effects which are moderate are not significant in terms of the EIA Regulations.

low, the significance of effect on the Deep Sea Fishing and Shipping was assessed as Moderate to Minor locally but reduces markedly with distance as its visual influence diminishes. The effect on the Deep Sea Fishing and Shipping seascape character type is therefore not significant in terms of the EIA Regulations.

Table 14.5 Summary of Effects on Seascape Character

Regional Seascape Unit / Seascape Character Type	Approximate distance to nearest turbine (land extents if applicable)	Sensitivity of Receptor	Magnitude of Effect	Significance of Effect
Duncansby Head to Skirza Head RSU	33 km	High	Low to Negligible	Moderate to Negligible, i.e. Minor
Skirza Head to Keiss RSU	28 km	Medium	Low	Moderate-Minor
Sinclair's Bay RSU	20 km	Medium	Negligible	Negligible
Noss Head to Berriedale RSU	13.5 km	Medium to Low	High	Major-Moderate to Moderate
Berriedale to Helmsdale RSU	30 km	Medium to Low	Low to Negligible	Moderate-Minor to Minor to Negligible
Coastal Waters SCT	0 km	Medium	High to Medium	Major-Moderate to Moderate
Inshore Waters SCT	0 km	Low	High	Moderate
Deep Sea Fishing and Shipping SCT	10 km	Low	Medium (locally)	Moderate-Minor (locally)

14.5.2 EFFECTS ON LANDSCAPE CHARACTER TYPES

167. The assessment of the effects on the landscape character types concluded that the Wind Farm would not create any significant effects for any of the 12 character types identified within the Study Area. The full assessment of these types is presented in Appendix 14.4 and Table 14.6 below provides a summary of the effects.

168. It was assessed that there would be a magnitude of negligible to none from the Wind Farm on eight of the twelve types, and therefore negligible to none significance of effect. Low and low to negligible magnitude of effects were assessed for the other four types, namely: Lone Mountains, Harbour, Mixed Agricultural and Settlement, and Small Farms and Crofts. This resulted in a significance of effect of moderate to negligible i.e. minor for the Lone Mountains, minor to negligible for the Harbour and Mixed Agricultural and Settlement types, and moderate-minor for the Small Farms and Crofts type. All effects on landscape character types were therefore not found to be significant in terms of the EIA Regulations.

169. The conclusion of no significant effects was the result of a variety of factors including distance from the Wind Farm, limited relationships with the sea, and ultimately lack of intervisibility with the Wind Farm.

14.5.3 EFFECTS ON DESIGNATED LANDSCAPES

170. The effect of the Beatrice Offshore Wind Farm on the Duncansby Head AGLV, Morven & Scaraben AGLV and Peatlands SAWL are discussed below. Please refer to Figure 14.4 for the location of these areas, and also ZTV Figure 14.3. The following Table 14.6 presents a summary of the effects on the landscape character and designated landscapes.

14.5.3.1 Duncansby Head AGLV

171. The Duncansby Head AGLV lies in a relatively narrow coastal strip between 34 km and 38 km from the Wind Farm. The ZTV indicates that only the coastal edge of the Duncansby Head AGLV will have potential visibility of the Wind Farm.

172. The Stacks of Duncansby are the key focal point within this AGLV and can be appreciated in views from the coastal path leading south from the lighthouse at Duncansby Head. Importantly the Wind Farm, whilst potentially visible, will be at a considerable distance so that the turbines will be recessive in views and the setting of the Stacks will remain largely unchanged. Please also refer to the visualisations produced for Viewpoint 1 (Figure 14.13 and 14.29) taken from Duncansby Head.

173. As the Wind Farm will not directly affect the physical characteristics of the AGLV and potentially be only a recessive element in long distant views, the magnitude of effect is judged as low to negligible. As the sensitivity to the type of development proposed is high, the significance of effect on this AGLV was assessed as moderate to negligible, thus minor and not significant in terms of the EIA Regulations.

14.5.3.2 Morven and Scaraben AGLV and Peatlands SAWL

174. The Morven and Scaraben AGLV and Peatlands SAWL lie from approximately 27 and 29.5 km respectively at their closest point, to beyond 40 km to the west of the Wind Farm (Figure 14.4).

175. The ZTV shows that intervisibility with the Wind Farm is largely limited to intermittent areas on the west facing slopes within the southern extents around Scaraben. The topography prevents any intervisibility within the northern parts.

176. The Wind Farm will not directly affect the physical characteristics of the AGLV or SAWL. It will be a minor element in expansive panoramic views available from a relatively small proportion of the overall area.

177. Therefore it was judged that, overall, the magnitude of effect on the AGLV and SAWL is low to negligible. As the sensitivity to the type of development proposed is high, the significance of effect was assessed as moderate to negligible, thus minor. The effects on the AGLV and the SAWL are therefore not significant in terms of the EIA Regulations.

Table 14.6 Summary of Effects on Landscape Character and Designated Landscapes

Receptor	Approx. distance to nearest turbine	Sensitivity of Receptor	Magnitude of Effect	Significance of Effect
Caithness and Sutherland Landscape Character Types				
Sweeping Moorland	17 km	Medium to Low	Negligible	Negligible
Flat Peatland	19 km	Medium to Low	Negligible to None	Negligible to None
Moorland Slopes and Hills	24 km	Medium	Negligible	Negligible
Lone Mountains	32 km	High	Low to Negligible	Moderate to Negligible, i.e. Minor
High Cliffs and Sheltered Bays	30 km	High	Negligible	Negligible
Long Beaches, Dunes and Links	23 km	Medium	Negligible to None	Negligible to None
Strath	30 km	Low	Negligible to None	Negligible to None
Coastal Shelf	34 km	High to Medium	Negligible	Negligible
Harbour	17 km	Low	Low to Negligible	Minor to Negligible
Open Intensive Farmland	16 km	Medium	Negligible	Negligible
Mixed Agricultural and Settlement	15 km	Low	Low to Negligible	Minor to Negligible
Small Farms and Crofts	13.5 km	Medium	Low	Moderate-Minor
Duncansby Head AGLV	34 km	High	Low to Negligible	Minor
Morven and Scaraben AGLV	27 km	High	Low to Negligible	Minor
Peatlands SAWL	29.5 km	High	Low to Negligible	Minor

14.5.4 VISUAL EFFECTS

178. The ZTV illustrated in Figure 14.2 indicates the theoretical worst case scenario of the Wind Farm in terms of the extent of visual exposure. Figure 14.3 has modelled in settlement and woodlands (obstructions) to give a more realistic scenario than a bare-ground model. However, in reality, the extent of visual effects arising from the Wind Farm over land will be greatly reduced due to the subtleties of intervening landform, built form (e.g. all settlements) and localised vegetation (including hedgerows and other blocks of woodland) which are not picked up on

the data sets used for ZTV construction. Prevailing weather conditions will also further influence the actual extent of visibility as discussed in Section 14.2.4.6.

14.5.4.1 ZTV Analysis

179. The areas of greatest theoretical visual effect arising from the Wind Farm lie within the Moray Firth and immediate coastal regions of Caithness. The ZTV shows that across the open sea within the Moray Firth, the curvature of the earth prevents visibility of any of the turbine columns at approximately 47 km, beyond which it is likely only blade tips will be visible. This extends slightly further on land due to the elevated topography. These distances take no account of weather and atmospheric conditions which will curtail the viewing distances to various extents.

180. The closest landfall to the Wind Farm is approximately 13.5 km away at Sarclet Head. On land, the area within 20 km of the Wind Farm extends from Noss Head to Lybster and the ZTV illustrates that there is potential for a large proportion of this area to have visibility of the turbines. However, the immediate area around Wick, Loch Hempriggs, Loch of Yarrows, and Upper Camster shows no intervisibility.

181. Between 20 and 30 km from the site, the ZTV illustrates that there is visibility along the coastline between Lybster and Berriedale and extending inland between the undulating sweeping moorland. In the north, the visibility is more intermittent with blade tip visibility only, as the curvature of the coast from Noss Head precludes clear views.

182. Beyond 30 km in the south, the potential visibility becomes a narrower band along the coastline with intermittent areas of visibility on the east facing slopes of the Morven and Scaraben mountain range. There is little visibility inland to the north west of the site which coincides with the Flat Peatland character area and also series of coniferous plantations. To the north of the Study Area (north north west of the Wind Farm) there is potential visibility along the coast from Tang Head to Duncansby Head extending inland 2 to 3 km at some points. Further inland, the ZTV illustrates larger patches of visibility within the Mixed Agricultural and Settlement landscape character area and some areas of Sweeping Moorland. At this distance much of the potential visibility is blade tip only and farmland hedgerows and shelterbelts this would reduce visibility further.

14.5.4.2 Effects on Visual Receptor Groups

183. The baseline above identified the main onshore and offshore visual receptor groups. The effects of the Wind Farm on these are discussed below and a summary is presented in Table 14.7.

Residents

184. The closest residents to the Wind Farm are those living in the small coastal village of Sarclet (Viewpoint 5). The majority of the houses are along the main road which is at right angles to the coast and therefore they do not have their main outlooks towards the coast. This is typical of most of the historic villages and houses along the coast. There are more recently built or converted houses dispersed along the

coast which are deliberately orientated towards the sea for the views. The modern building methods and materials keep the cold sea winds out where as the historic buildings did not so they tend to be sheltered away from the exposed coast. The turbines will alter the sea views for those residents whose properties lie closest to, and whose orientation is towards the coast. The magnitude of effect on those residents is considered high. As local residents will have a high sensitivity to the type of development proposed, the significance of effect is major. The effect is therefore significant in terms of the EIA Regulations.

185. Wick is the main settlement within the Study Area and, as has been shown on the ZTV and discussed in Viewpoint 4, it is only those properties which lie on the open eastern edges of the town where clear views of the Wind Farm will be possible. To the north east of Wick, the small villages of Papigoe and Staxigoe lie in a more exposed position and the Wind Farm will be visible for those properties with outlooks towards the south east. The ZTV illustrates that to the north of Wick, along the coast, villages such as Keiss, Nybster, Freswick and Skirza will have intervisibility with the Wind Farm but due to distance, intervening landform and orientation of housing, the Wind Farm will not be prominent in views from properties within these villages. Viewpoint 2 taken from Keiss harbour is a representative view from this area – please refer to Table 14.8 for a summary of the assessment of this Viewpoint.

186. Inland within the northerly extents of the Study Area, the ZTVs show intervisibility of the Wind Farm with settlements at and around Reiss, Sortat, Catchory, Stemster, Bowermadden, and Watten which lie within the Mixed Agriculture and Settlement landscape character type. In reality, as shown in Viewpoint 3 from Sortat (Figure 14.8) and Viewpoint 13 from Catchory (Figure 14.8) and confirmed from site visits, the combination of intervening vegetation and landform, combined with distance from the Wind Farm obscures most if not all views of the Wind Farm in these areas.

187. To the south of Wick, settlements are largely positioned along the coast and accessed from the A99 and A9. The ZTVs (Figures 14.2 and 14.3) illustrates that intervisibility with the Wind Farm is primarily along these coastal areas. Viewpoints were taken at Sarclet (Viewpoint 3), Whaligoe (Viewpoint 10), Lybster (Viewpoint 7), Latheron (Viewpoint 8), Dunbeath (Viewpoint 9), and Navidale (Viewpoint 12) which give representative views of the Wind Farm from these coastal locations. Please refer to Appendix 14.5 and Table 14.8 below for an assessment of these viewpoints. The majority of the residents in the larger villages such as Dunbeath and Lybster have properties which are within organised street patterns orientated away from the coast; however, views of the Wind Farm may be possible in arriving and leaving the villages where the roads and development allow. Site assessment work confirmed that clear views of the Wind Farm are limited to the coastal edges of the settlements where houses have been deliberately orientated for sea views. In these cases, wide expansive sea views are often possible, and the Wind Farm will be a prominent feature for the closest of coastal locations such as Sarclet, diminishing with distance and a more oblique orientation from the Wind Farm, as illustrated at Navidale.

188. The rising topography inland to the south of Wick has influenced and restricted the distribution of settlements and those inland areas identified on the ZTVs as having intervisibility with the Wind Farm are mostly areas of unpopulated remote upland moorland.

The Travelling Public

Roads

189. There are four main roads within the Study Area; A9 (north and south), A99 and A882. The southern part of the A9 and the A99 follow the coast along its length within the Study Area. The A9 (north) runs between Thurso and Latheron, and the A882 runs cross country between Wick and Halkirk. An overview of the assessed effects on these roads is discussed below with a full description presented in Appendix 14.5.

190. These latter two roads lie inland for the majority of their route and the assessment found that there would be only limited views available of the Wind Farm and these are mostly located along the southern end of the roads, close to the coast. Therefore, it was judged that overall there would be a negligible magnitude of effect on the A882 and A9 (north). As the sensitivity of road users to the type of development proposed is medium to low, the effect was assessed as negligible significance and thus not significant in terms of the EIA Regulations.

191. The ZTVs also indicate that travelling north on the A9 (south) there is a noticeable gap in potential views from approximately Helmsdale to Berriedale. The road at this point lies further inland and cuts between the elevated coastal shelf so that views out to sea are very intermittent. Theoretical visibility continues travelling north to Latheron with another gap in visibility where the road wraps inland around Dunbeath.

192. Overall, as the road follows the coast, the views of the sea are a characteristic of the journey and for a large part of this route the ZTV shows that there is potential for views of the Wind Farm. However, at between 40 and 25 km from the Wind Farm, it is unlikely that it will become a discernible feature until nearing Latheron.

193. It was therefore judged that overall there will be a partial to minor alteration of the key characteristics of the route so the magnitude of sequential effect on the users of the A9 (south) is medium to low. As the sensitivity of road users to the type of development proposed is medium to low, the effect was assessed as moderate to minor significance and is not a significant effect in terms of the EIA Regulations.

194. The A99 follows the coastline from John O'Groats to Latheron, for a 55 km stretch from just within 40 km to, at closest, 15 km from the Wind Farm. The ZTVs illustrate that there is almost continuous theoretically visibility of the Wind Farm along the A99, with gaps in visibility around Freswick Bay, Keiss, a 6.5 km stretch south of Wick, and a short stretch west of Lybster.

195. Sea views are a characteristic for the majority of the route and the Wind Farm will become a prominent element in these views when travelling towards Wick from

John O'Groats, and either direction between Wick and Latheron. This latter stretch at closest to the Wind Farm will potentially have the greater effects.

196. The magnitude of sequential effect on travellers on the A99 was judged as high to medium as, overall, the Wind Farm will be a major or partial alteration to the key characteristics of this route. As the sensitivity of the travellers to the Wind Farm is medium to low, the effect was assessed as major-moderate to moderate to moderate-minor significance. There will thus be stretches of this route from which there will be a significant effect in terms of the EIA Regulations.

Rail

197. The stretch of railway within the Study Area has limited if any intervisibility with the Wind Farm as illustrated on the ZTVs (Figures 14.2 and 14.3) due to its inland location. As rail travellers are attributed a low sensitivity to the type of development proposed, and taking account of the negligible magnitude of visual effect upon these travellers, the significance of effect of the Wind Farm is judged as negligible which is not a significant effect in terms of the EIA Regulations.

Public Paths

198. The potential for the greatest visual effects of the Wind Farm on public paths will be on those closest to the site and on the coast where open sea views are possible. There is not a continuous coastal path through the Study Area due to the nature of the coastline topography but short lengths of accessible coastal routes can be found at Duncansby Head and Lybster.

199. As illustrated by Viewpoint 1 and discussed in the landscape character section (Section 14.3.3.), the coastal path at Duncansby Head primarily enables receptors to experience the coastal cliff features. The Wind Farm will be at a considerable distance from Duncansby Head so that the turbines may be noticeable but not a prominent part of the view. It was therefore judged that the magnitude of effect on users of the coastal paths near Duncansby Head is low. As users of the public paths will have a high sensitivity to the type of development proposed, the significance of effect was assessed as moderate (as defined in the SLVIA Assessment Methodology, appendix 14.2) which does not constitute a significant effect in terms of the EIA Regulations.

200. The short coastal path at Lybster extends to a marked elevated panoramic viewpoint which affords views towards the Wind Farm. At this position, approximately 19 km from the Wind Farm, the turbines will be a prominent feature across the horizon in views east and north east. The Wind Farm will become a characteristic of the view from the coast, reduced to some degree by distance. Therefore the magnitude of effect from this stretch of footpath was judged as high to medium. As users of the public paths will have a high sensitivity to the type of development proposed, the significance of effect was assessed as major to moderate and is therefore significant in terms of the EIA Regulations.

201. In addition there are several short heritage paths along the coast which focus on historic industry and fishing stations rather than sea views, so the presence of the

Wind Farm will not significantly alter the character to users of the public paths where sea views are available and could be perceived to add to the industrial character and heritage of the area. Thus, whilst the sensitivity of the users to the type of development proposed will be high, the magnitude of effect will be low constituting no more than a Moderate significance of effect which is not significant in terms of the EIA Regulations.

National Cycle Routes

202. The National Cycle Route 1 lies inland for the majority of the study area and the ZTVs illustrate that there will be limited if any intervisibility with the Wind Farm. Recreational cyclists are attributed a high to medium sensitivity to the type of development proposed which, when correlated against a negligible magnitude of effect upon this National Cycle Trail, results in a negligible significance of effect. This is not significant in terms of the EIA Regulations.

Ferry Routes

203. The Orkney/Shetland - Aberdeen passenger ferries pass through the eastern extents of the 40 km Study Area on a regular basis. The route lies at closest approximately 20 km from the turbines. Wireframes have been produced to illustrate the potential views from two points along the ferry route within the 40 km Study Area. Please refer to Figure 14.42 for both wireframes. The effect on the ferry passengers is discussed through Viewpoints 15 and 16 – see Appendix 14.5 and Table 14.8 below.

14.5.4.3 Visitors, Tourism and Amenity Resource

204. The potential effects on visitors to the area and general visual amenity is considered through the viewpoint analysis and also in the assessment of the travelling public above with which there is clear overlap. Visitors to the area with the greatest potential to be affected by the Wind Farm would be those travelling through the region along the coastal roads and or footpaths within approximately 20 km of the Wind Farm, and those visiting specific destinations on the coastline closest to the Wind Farm. For these visitors, who would each have different levels of sensitivity to the proposed type of development depending upon their particular pursuit or activity (compare footpath walkers with an identified high sensitivity to museum visitors with a medium sensitivity) the magnitude of effect will naturally vary according to their specific location and the degree of visual exposure to the Wind Farm. The range of various effects upon these visitors is thus best demonstrated by reference to the various viewpoints where visitors have been identified as a principal receptor for Viewpoints 1, 5, 6, 9 and 10. Other key tourist/visitor destinations include John O'Groats and Duncansby Head where the magnitude of effect arising from the Wind Farm has been demonstrated to be negligible. Where the magnitude of effect is negligible this always indicates a negligible significance of effect regardless of the sensitivity of the visual receptor. In terms of the EIA Regulations this does not constitute a significant effect.

14.5.4.4 Recreational Sailing

205. Recreational sailing and yachting are not common in the immediate waters around the Wind Farm. Those sailors using the cruising routes in the wider area may have some visibility of the turbines. They would have a high to medium sensitivity to the Wind Farm as although they may have an interest in their surroundings, which already include a relatively high level of marine activity, they also will be concentrating on making passage. The magnitude of effect upon this receptor group was overall judged as medium, but it was accepted that there may be a high magnitude of effect for a short passage of time as the vessels and receptors pass within close proximity to the Wind Farm. Taking account of the high to medium sensitivity of the receptor and the variable magnitude of effect the overall significance of effect is assessed as moderate, increasing to major to moderate only when in close proximity to the Wind Farm. In terms of the EIA Regulations the effect will be significant only when in close proximity to the Wind Farm but reduce to insignificant as the sailors draw away from the Wind Farm.

Workers

206. There are many fishing, commercial, and industrial vessels which frequent the waters around the Moray Firth and the turbines will potentially be a fundamental change to views when in the vicinity. Smaller fishing vessels from the local village harbours may be more affected as they do not travel as fast or as far offshore as the larger ships and may have visibility of the Wind Farm for the duration of their fishing trips. However, due to the fact that they will be focussed on their line of work and due to their generally transient nature, effects would be reduced. It was judged that the magnitude of effect is overall medium. As the workers on the boats and ships would have a generally low-medium sensitivity to the type of development proposed, the significance of effect was assessed as moderate to moderate-minor. The effect is not significant in terms of the EIA Regulations.

207. Workers on oil and gas platforms will also potentially be affected if located within close vicinity to the Wind Farm. They will primarily be concentrating on their line of work on a built structure so their sensitivity to the type of development proposed would be low-medium. It was judged that the magnitude of effect would also be low, so the overall significance of the effect is moderate–minor to minor and therefore not significant in terms of the EIA Regulations.

Table 14.7 Summary of Effects on Visual Receptors

Receptor Group	Distance to nearest TURBINE	Sensitivity of Receptor	Magnitude of Effect	Significance of Effect
Residents				
Sarclet	>14 km	High	High	Major
The Travelling Public				
Roads - A9 (north)	25 – 40km	Medium to Low	Negligible	Negligible
Roads - A882	18-40 km	Medium to Low	Negligible	Negligible
Roads - A9 (south)	25-40 km	Medium to Low	Medium to Low	Moderate to Minor
Roads - A99	15-40 km	Medium to Low	High to Medium	Major-Moderate to Moderate to Moderate-Minor
Rail	>18 km	Low	Negligible	Negligible
Public Path Users – Duncansby Head coastal path	c36 km	High	Low	Moderate
Lybster path users	c19 km	High	High - Medium	Major-Moderate
Other paths as per assessment above	various	High	Low	Moderate
Cycle Routes	various	High - Medium	Negligible	Negligible
Ferry Passengers	>20 km	Medium to Low	Low to None	Moderate-Minor to Minor to None
Visitors				
Recreational Sailing	>0 Km	High-Medium	Medium High (temporarily) decreasing to Negligible with distance	Moderate Major-Moderate (temporarily) decreasing to negligible with distance
Workers at Sea – Fishing and Commercial,	>0 km	Medium - Low	Medium	Moderate to Moderate-Minor
Workers on Oil/Gas Platforms	>1km	Medium - Low	Low	Moderate–Minor to Minor

14.5.5 EFFECTS ON VIEWPOINTS

208. A full assessment of each of the 16 viewpoints identified in the baseline was undertaken and those where the magnitude of effect was judged as medium or greater, and therefore has the potential to present a significant effect in terms of the EIA Regulations, are presented below. The remaining viewpoint assessment is provided in Appendix 14.5. A full list of the effects on all the 16 viewpoints is summarised in Table 14.8 below.

14.5.5.1 Viewpoint 4: Wick Bay (Figures 14.16 and 14.31)

209. The wireframe and photomontage illustrates that the turbines will appear from behind the headland occupying 22 degrees of the illustrated 135 degree view. The turbines will appear stacked in direct view splaying out first in defined rows and becoming more regular spaced towards the south. The closest turbine will be 18.04 km from the viewpoint.

210. The visible turbines will not be higher than the adjacent headland and will extend across approximately half of the open sea view from this point. The photomontage shows that where the turbines are stacked they will be more prominent.

211. The wireframe and photomontage also show that one OSP will potentially be visible amongst the turbines on the horizon, above a foreground shelf of rocks at the edge of the Harbour. Its position anchors it to the land to some degree and whilst noticeable it will not lie within the main open sea view, thus reducing its prominence.

212. The Wind Farm will be a noticeable element across the horizon but within an overall busy and complex view where the harbour elements in the foreground are a focus. Buildings located on the headland (South Head) break up the horizon and will obscure some of the turbines at this point.

213. It was therefore judged that as the Wind Farm will be a partial alteration to the key elements of the views, the magnitude of visual effect arising from the Wind Farm is medium. As the key receptor groups of residents' sensitivity to the type of development proposed is high, the significance of effect was assessed to be Major-Moderate. This is significant in terms of the EIA Regulations.

14.5.5.2 Viewpoint 5: Sarclet (Sarclet Haven Info Board) (Figures 14.17 and 14.32)

214. The wireframe and photomontage show that the turbines will occupy 54 degrees of the illustrated 135 degree view. The closest turbine will be 13.93 km from the Viewpoint.

215. The turbines will be prominent features across the sea view appearing with overlapping blades at either end of the area with defined rows and stacking visible in the centre of the view.

216. The three OSPs will be visible on the horizon at a similar size and scale to the existing oil/gas platforms that can be seen within and to the south of the proposed turbine array. They will be prominent points but not a new type of feature within the view.

217. The headland in the foreground breaks up the sea view to some extent but the turbines and OSPs will be visible above the headland. The presence of the Wind Farm will fundamentally change the sea view, although views to the north and south will remain unchanged.

218. It was therefore assessed that the magnitude of visual effect arising from the Wind Farm is high. As the key receptor group of residents and visitors to the coast have a high and high to medium sensitivity respectively, the significance of effect was

assessed as major for residents and major to major-moderate for visitors. These effects are significant in terms of the EIA Regulations.

14.5.5.3 Viewpoint 6: Hill O'Many Stanes (Figures 14.18 and 14.33)

219. The turbines are illustrated in the wireframe and photomontage as occupying 50 degrees of the illustrated 135 degree view. The closest turbine will be 16.78 km from the Viewpoint. The turbines will appear stacked and in separate rows directly in front of the view with more overlapping and regular spacing to the north.

220. Due to the number and extent of the turbines, the Wind Farm will be a prominent feature within a large proportion of the illustrated view. The landform at this Viewpoint and position of the historic stones draws the eye towards the sea where the turbines will lie across much of this view. However, the turbines do lie within an expansive 360 degree view which includes elements such as the existing oil platforms and Beatrice demonstrator turbines, settlement, and coniferous plantations which will reduce the sea focus of the view to some degree.

221. The three OSPs will also be prominent elements at a similar scale to the existing oil/gas platforms which can be seen across the horizon to the south of the view. They will extend the presence of this type of industrial structure across the view.

222. It was therefore judged that as the Wind Farm will be a considerable alteration to the key characteristics of the view, the magnitude of visual effect arising from the Wind Farm is high. As the sensitivity of visitors to the type of development proposed is high to medium, the significance of effect was assessed as major to major-moderate. The effect is therefore significant in terms of the EIA Regulations.

14.5.5.4 Viewpoint 7: Lybster (end of Main Street) (Figures 14.19 and 14.34)

223. The wireframe and photomontage show that the turbines will appear in one group across 43 degrees of the 135 degree illustrated view. The closest turbine will be 19.27 km from the Viewpoint. The turbines will appear in defined stacked rows within the centre of the group to a more random arrangement either side with overlapping blades and turbines.

224. The turbines will extend from the headland in the north behind the house in the foreground and continue for approximately a further 20 degrees. They will be prominent, although, as the photomontage shows in certain weather conditions they will be more recessive. Within the wider view the Wind Farm will be seen as a backdrop to the housing area and will not extend into the more open and simple sea and coast views possible to the south. The oil rigs and demonstrator turbines are also noticeable features from this viewpoint which lie across the horizon, and provide a baseline of industrial activity in the sea.

225. The three OSPs will be seen across the horizon within the turbine array at a similar scale to the existing four oil/gas platforms which can be seen to the south. Combined with the oil/gas platforms these structures will be noticeable features across the entire sea view, emphasising the industrial nature of the seascape.

226. From this viewpoint it was judged that the Wind Farm will create a major alteration to the key characteristics of the view. However, the foreground elements, coupled

with the visual anchorage to the proposed Wind Farm array that the nearby headland provides and the existing visible oil and gas platforms, combine to limit the magnitude of visual effect to high to medium. As the key receptor group of local residents' sensitivity to this type of development is high, the significance of effect was assessed as major to major-moderate and is therefore a significant effect in terms of the EIA Regulations.

14.5.5.5 Viewpoint 9: Dunbeath (nr Heritage Centre) (Figures 14.21 and 14.36)

227. The wireframe and photomontage show that the turbines will occupy 32 degrees of the 135 degree illustrated view. The closest turbine will be 25.62 km from the Viewpoint.

228. The turbines appear generally as one group, with the closest turbines at the south reading as defined stacked rows. The rest of the group consists of overlapping blades and turbines in a more random arrangement with discernible gaps between two small groups of turbines in the north of the Wind Farm. However, the photomontage illustrates that the vegetation on the sloping landform will obscure the sea and bottom of the towers of the turbines at this northern end.

229. The sea view is framed in Dunbeath due to the steep valley slopes either side of the village. This emphasises the sea as the focus of the view and thus the turbines become more prominent than elsewhere at this distance where open sea views are available.

230. Two of the three OSPs are visible within the turbine array. They appear smaller than the oil/gas platforms which lie also with the turbine array and to the south along the horizon. They will be noticeable but not particularly prominent features.

231. Taking into account the above it was judged that the Wind Farm will be a partial alteration to the key features of the view and the magnitude of visual effect is medium. As the key receptor group of local residents and visitors have a high and high to medium sensitivity respectively, the significance of effect was assessed as major-moderate for residents to major-moderate to moderate for visitors. These effects are significant in terms of the EIA Regulations.

14.5.5.6 Viewpoint 10: Whaligoe Steps (Figures 14.22 and 14.37)

232. The wireframe and photomontage show that the turbines occupy 54 degrees of the illustrated 135 degree view. The closest turbine will be 15.33 km from the viewpoint.

233. The turbines appear overall as one group with stacking and defined rows towards the centre of the group gradually opening out to some overlapping blades and a more random arrangement.

234. The three OSPs are visible within the turbine array at a similar scale to the existing oil/gas platforms which lie to the south. They will be prominent features at this distance and extend the presence of this type of industrial structure across the view.

235. The landform descends down the steep cliffs of Whaligoe framing the sea view within the area shown on the photograph panorama. The turbines will be prominent across the horizon and will be a fundamental change to the view.

236. It was therefore assessed that the magnitude of visual effect is high. As the key receptor groups of residents and visitors have a high and high to medium sensitivity respectively to the type of development proposed, the significance of effect was assessed as major for residents and major to major-moderate for visitors. These effects are significant in terms of the EIA Regulations.

Table 14.8 Summary of Effects on Viewpoints

Viewpoint		Distance to nearest turbine	Receptor Type	Sensitivity of Receptor	Magnitude of Effect	Significance of Effect	EIS Regulations Significant (Y/N)
1	Duncansby Head	36.74 km	Visitors	High	Low to Negligible	Moderate to Negligible i.e. Minor	N
2	Keiss Pier	27.35 km	Residents Workers	High Medium to Low	Low to Negligible	Moderate to Negligible i.e. Minor (residents) Moderate-Minor to Minor to Negligible (workers)	N
3	Sortat	32.49 km	Residents	High	Negligible to None	Negligible to None	N
4	Wick Bay	18.04 km	Residents	High	Medium	Major to Moderate	Y
5	Sarclet	13.93 km	Residents Visitors	High High to Medium	High	Major (residents) Major to Major-Moderate (visitors)	Y
6	Hill O' Many Stanes	16.78 km	Visitors	High to Medium	High	Major to Major-Moderate	Y
7	Lybster	19.27 km	Residents	High	High to Medium	Major to Major-Moderate	Y
8	Latheron (A9)	22.98 km	Travellers	Medium to Low	Medium	Moderate to Moderate-Minor	N
9	Dunbeath (nr Heritage Centre)	25.62 km	Residents Visitors	High High to Medium	Medium	Major-Moderate (residents) Major-Moderate to Moderate	Y

Viewpoint		Distance to nearest turbine	Receptor Type	Sensitivity of Receptor	Magnitude of Effect	Significance of Effect	EIS Regulations Significant (Y/N)
						(visitors)	
10	Whaligoe Steps	33.06 km	Residents Visitors	High High to Medium	High	Major (residents) Major to Major-Moderate (visitors)	Y
11	Scaraben	33.06 km	Walkers	High	Low	Moderate	N
12	Navidale	38.05 km	Residents Travellers	High Medium to Low	Low to Negligible	Moderate-Minor to Minor to Negligible	N
13	Catchory	29.48 km	Residents Workers	High Medium to Low	Negligible	Negligible	N
14	Minor Rd, Stemster Hill	26.28 km	Travellers	Medium to Low	Medium to Low	Moderate to Minor	N
15	Aberdeen to Orkney/ Shetland Ferry Route	19.73 km	Travellers	Medium to Low	Low to None	Moderate-Minor to Minor to None	N
16	Aberdeen to Orkney/ Shetland Ferry Route	29.74 km	Travellers	Medium to Low	Low to None	Moderate-Minor to Minor to None	N

14.5.6 *VISUAL EFFECTS AT NIGHT*

237. The turbines at Beatrice Offshore Wind Farm will be lit in accordance with the IALA standards and CAA requirements (see Section 7 for a full description of the lighting specifications). As such there is potential for the Wind Farm to be visible at night.

238. Photomontages of night views from the viewpoints at Wick and Dunbeath (Viewpoints 4 and 9 respectively) were created following requests from SNH to illustrate the potential lighting effects of the Wind Farm on key gateway views. Please refer to Figures 14.27-28 and 14.43-44 for the existing night-time photo-panorama, wireframes and photomontages from these two Viewpoints.

239. The night time photograph (Figure 14.27) taken from Wick Bay illustrates a brightly lit harbour and residential area to the west, with a very dark centre of view over the open water. The photomontage (Figure 14.43) illustrates that this scene will not noticeably change with the addition of the Wind Farm. The individual red turbine lighting is just discernible but very subdued in contrast to the brighter harbour

lighting. It may be possible to pick out the formation of the turbines within this lighting but only on a clear night. The OSP lighting is however quite visible as a single bright spot and would be similar to the lighting seen on the oil/gas platforms further along the coast to the south. The lighting around the harbour and residential area is however dominant and the OSP lighting would be hardly noticeable in contrast.

240. It was therefore judged that the magnitude of effect is negligible. As the key receptor groups of residents' sensitivity to the proposed type of development are high, the significance of effect was assessed to be negligible. The effect is therefore not significant in terms of the EIA Regulations.

241. The night time photograph (Figure 14.28) taken at Dunbeath shows a mostly dark scene with a couple of brightly lit areas around housing to the north of the viewpoint and with some individual road lighting in the centre of the view. The oil/gas platforms along the darkened horizon are seen as spots of lights, with one particularly bright platform to the south. The photomontage (Figure 14.44) illustrates that the lighting on the turbines will not be seen but the OSPs will increase the number of bright spots across the horizon within a previously unlit area. This addition will enable the line of the horizon to be made out by essentially 'joining the dots'; however distance will reduce this effect to some degree.

242. It was therefore judged that the magnitude of effect of the Wind Farm at night on this Viewpoint is low to negligible. As the key receptor group of residents' sensitivity to the type of development proposed is high, the significance of effect was assessed to be moderate to negligible, i.e. minor. The effect is therefore not significant in terms of the EIA Regulations.

14.5.7 OTHER ASSESSMENT CONSIDERATIONS

14.5.7.1 3.6 MW Indicative Layout

243. It was agreed with the consultees that the worst case scenario for the main SLVIA assessment would be the 7 MW indicative layout, as this has the larger turbines up to a blade tip height of 198.4 m, with the acknowledgement that potentially a greater number (up to 277) of smaller turbines could be the worst case scenario in some cases. Therefore the 3.6 MW indicative layout was assessed by the production of wireframes (Figures 14.45-14.47) from three of the viewpoints closest to the Wind Farm which were found to have the highest sensitivity of receptors.

244. The 3.6 MW indicative layout includes 277 turbines at a maximum hub height of 87 m and maximum blade tip height of 140.6 m (LAT). This amounts to almost double the number of turbines as the 7 MW indicative layout with an approximate 30 m hub height reduction and 60 m height to blade tip reduction.

14.5.7.2 Viewpoint 4 – Wick Bay (North Side) (Figures 14.16 and 14.45)

245. Comparing the 7 MW and 3.6 MW wireframes from Viewpoint 4 at the north side of Wick Harbour, the height difference of the turbines is not particularly discernible. However, the number of turbines creates a density and clarity to the layout pattern. Similar to the 7 MW scheme, the turbines overlap and become a

more random formation towards the south and behind South Head. In the north the turbines appear in defined stacked rows, potentially appearing as solid groups. The distance to the turbines from this viewpoint, 18.04 km, seems to negate any difference in heights but the increased density of the 3.6 MW turbines is more apparent. It is judged, however, that the 3.6 MW scheme would not change the significance of effect as assessed for the 7 MW scheme at this viewpoint.

14.5.7.3 Viewpoint 5 – Sarclet (Sarclet Haven info board) (Figures 14.17 and 14.46)

246. As the closest landfall to the Wind Farm and within an open coastal location the turbine array appears in full view. The arrangement between the 3.6 MW and 7 MW scheme is similar for both schemes with a central area of stacked rows splaying out to a more random arrangement. The height difference of the turbines is more noticeable at this viewpoint compared to Viewpoint 4. This is partly due to the relationship of the OSPs to the turbine columns and also the greater spacing between the 7 MW turbines appears to amplify their height in comparison to the 3.6 MW turbines. The density of the 3.6 MW turbines is apparent across the array but particularly within the centre of the array where more stacking is visible. Again, it is not considered that the 3.6 MW scheme would make a change to the significance of effect as assessed for the 7 MW scheme.

14.5.7.4 Viewpoint 7 – Lybster (end of Main Street) (Figures 14.19 and 14.47)

247. Lybster is at a similar distance from the Wind Farm as Wick, at just over 19 km. From this location the difference in height between the 3.6 MW and 7 MW schemes is more noticeable, possibly due to the more elevated position and given that the whole Wind Farm can be seen. The formations of both schemes appear similar with the density of the 3.6 MW layout creating more solid groupings and stacks. The turbines of the 3.6 MW layout also extend a few degrees further south than the 7 MW layout. It is judged that the significance of effect assessed for the 7 MW layout would not change with the 3.6 MW layout at this Viewpoint.

248. In assessing the differences between the two indicative layouts through three of the closest viewpoints it was clear that there was not an obvious distinction between which one creates the worst case scenario. The 7 MW turbines will appear taller and this height can make them appear a closer element to the viewpoint than the 3.6 MW turbines. The 3.6 MW indicative layout by the nature of its smaller height appears further away in comparison, but with almost double the number of turbines creates a denser array of turbines. This density has the potential to increase the prominence of the Wind Farm.

14.5.8 CONSTRUCTION AND DECOMMISSIONING

249. As discussed above, due to its duration and the extent of development once constructed, the operational effects of the Wind Farm will have the greater significant effects in comparison to the construction and decommissioning stages which will cause effects of limited duration.

250. During the construction phase the increased activity of vessel transportation of materials to/from quaysides and harbours, inter-array cable installation, the presence of jack-up barges or heavy lifting vessels and the progressive construction

of the wind turbines will constitute the main effect, albeit over a prescribed time period. These short term and temporal visual effects on the seascape and associated visual receptors will be an additional effect that will occur for periods of time relating to the increase in marine based activity and vessel movements. These are, however, already characteristics of the baseline environment given the presence of oil and gas rigs within the study area and the level of existing marine vessel activity.

251. During the decommissioning phase, there will also be visual effects similar to that of the construction phase. As the anticipated length of decommissioning will be slightly shorter than for the construction phase, these effects will be less than for the construction period.

252. Following the decommissioning stage there would be no residual effects on the seascape, landscape or visual receptors.

14.6 MITIGATION MEASURES AND RESIDUAL EFFECTS

253. Within the constraints of technical deliverability consideration to appropriate mitigation in terms of good design has been embedded into the Wind Farm design and layout and has been assessed throughout this section (Section 14.4).

254. Whilst the assessment has identified that there will be a number of significant residual effects, principally upon some visual receptor groups at specific locations within the Study Area it should be noted that during the evolution of the scheme design consideration was given to the potential effects that might arise, principally upon key clusters of visual receptors (residents) with an identified high sensitivity to the type of development proposed and Wick was specifically identified by the consultees. Early wireframes and inspections were undertaken on site to check that, within the parameters of the site and the proposed number of turbines, there were no potentially significant visual effects that might otherwise be designed out or limited in their magnitude through further practical mitigation.

255. The residual effects upon the seascape and landscape environments and upon visual receptor groups arising during the lifetime of the Wind Farm are thus as identified within the assessment above. Ultimately, at the end of the viable lifetime of the wind farm, and assuming that no application for re-powering is submitted, decommissioning will be undertaken such that, from a seascape, landscape and visual perspective there will be no evident residual change to the existing environment nor any lasting effect upon visual receptor groups

256. As discussed above, as there are limited mitigation opportunities for reducing further the seascape, landscape and visual effects of the Wind Farm, the residual effects will therefore be the same as the effects predicted in sections above and summarised in Tables 14.5, 14.6, 14.7 and 14.8.

14.7 MONITORING AND ENHANCEMENTS

257. No monitoring is required for seascape, landscape and visual effects.

14.8 SUMMARY OF EFFECTS

14.8.1 SEASCAPE AND LANDSCAPE EFFECTS

258. The scale and extent of the Wind Farm, located 13.5 km east off the Caithness coast, has the potential to effect on the surrounding seascape and landscape environments. The primary source of the effects will be the turbines and to a lesser degree the associated OSPs.

259. The turbines and OSPs are necessarily large structures which will be introduced into the existing seascape character which does already include two offshore wind turbines, the Beatrice demonstrator turbines, and several oil/gas platforms.

260. Being sited out at sea, the turbines are to be placed within an immediate receiving environment that has both the scale and simplicity of form to, not only accommodate the Wind Farm, but also to provide it with an appropriate contextual setting. Thus, although the turbines are in themselves of a substantial scale, visual aesthetics and the nature of the receiving environment, which includes an expansive horizon line, big skies, simple composition and linear form of views, and the general scale of the seascape, indicates that they are not inappropriate to offshore locations.

261. Whilst any direct effects arising from the Wind Farm will be limited for the majority of the seascape and landscape receptors, there will be a range of indirect visual effects upon the various identified regional seascape units, seascape and landscape character areas, and designated coastal landscapes within the Study Area.

262. The Wind Farm will be located within the Rocky Coastline - Noss Head to Berriedale regional seascape unit which will be the RSU most effected upon by the Wind Farm. The Wind Farm will be a prominent feature within the RSU and will become a defining characteristic. However, and allowing for the identified medium to low sensitivity to the type of development proposed, the scale of the seascape unit and the presence of existing marine activity will assist in limiting the overall extent of the effect locally to major-moderate to moderate significance. However, this remains a significant effect in terms of the EIA Regulations.

263. Given the scale and extent of the Wind Farm, the turbines will also be theoretically visible from the four other RSUs and will thus have a degree of indirect effect upon the visual attributes of their character. A combination of distance, the nature and scale of these units, and the fact that effects are confined to visual influence only will assist with reducing the overall extent of effect on these four RSUs to no more than moderate significance.

264. The Wind Farm is also located within the identified Inshore Waters seascape character area and adjoins the eastern edge of the Coastal Waters seascape character area. As marine activity already exists within the Inshore Waters, the effect has been assessed as of moderate significance, this taking account of the locally high magnitude of effect upon the landscape character types low sensitivity to the type of development proposed. The Coastal Water seascape character area is considered

more sensitive in terms of the relationship with the land and as a result the effect is higher at major-moderate to moderate significance.

265. The effects of the Wind Farm on the various landscape character types included within the Study Area were all generally assessed as no greater than minor or negligible significance of effect with only the effects on Lone Mountains and Small Farms and Crofts LCTs being assessed as moderate. In terms of the EIA Regulations none of the LCTs will therefore experience a significant effect as a result of the Wind Farm. As the Wind Farm lies beyond 13.5 km for all of the landscape character types, the identified effects are confined to the coastal areas or areas which have a strong relationship with sea views and, as noted, in these cases the significance of effect has been assessed as no more than moderate-minor. The more elevated inland character areas encompass far ranging and expansive views within which the Wind Farm will be a noticeable element on the horizon line. However, because the views already contain other wind farms, primarily onshore, and because of the expanse of the panoramic views available the Wind Farm will be but a small element within the available view and therefore will not noticeably alter the key visual characteristics of any of these LCTs.

266. The Wind Farm has also been assessed to have a minor significance of effect on the Duncansby Head AGLV and also the Morven-Scaraben AGLV and SAWL area. This is due to the distance that the Wind Farm lies from these areas such that it will only exist as a recessive element in any views creating only a minor alteration to the visual characteristics of these designated landscapes.

14.8.2 VISUAL EFFECTS

267. The turbines will be seen, both individually and collectively, as large visual elements set within a simple open setting, comprised predominantly of sea and sky with a more distant coastal edge. The turbines will also be seen by visual receptor groups at sea where they will be seen against a backdrop of Caithness's predominantly rocky cliff coastline.

268. However, the ZTVs illustrate that the landward extent of visibility is very limited. Theoretical visibility is highest primarily along the immediate coastline, to the flatter more open land in the north west and to the higher elevated land to the west of the Wind Farm.

269. The visual effects arising from the offshore turbines will be greatest when seen in exposed views within an approximate 25 km radius of the Wind Farm. This is demonstrated by the assessment of major and major-moderate significance of effects identified for the receptors at six of the 14 land-based viewpoints all of which are effectively within this distance. However, as the viewpoint assessment and ZTV analysis also demonstrates, any visibility of the Wind Farm within an approximate 25 km radius cannot be assumed to be a significant effect, particularly from locations away from the coastline as views of the turbines can be easily obscured by general foreground context such as local topography, vegetation, and buildings. Even for those locations that are on the coastline it cannot be assumed that the presence of the Wind Farm will result in a significant effect as this can also

be influenced by the composition of the view; the relationship between the Wind Farm and the coastal landform; and, the extent of visibility of the Wind Farm. This is demonstrated by the viewpoint at Latheron (22.98 km from the nearest turbine) where the significance of effect was assessed as moderate - moderate to minor i.e. not significant in terms of the EIA Regulations.

270. The visual effects will ease considerably with distance from the site. However, given the size and extent of the Wind Farm, they will still likely be a noticeable, but not prominent feature, from the exposed coastline at distances of up to approximately 35 km, as demonstrated by Viewpoint 1 at Duncansby Head Figure 14.13 and 14.29 and Appendix14.5). At similar distances inland from the Beatrice Offshore Wind Farm, the landform and components of the landscape will obscure or reduce the prominence of the turbines so that they will become a recessive, even if visible, element in the view.

271. The magnitude and extent of visual effect is also reduced as the Wind Farm will be seen to shift from being the main focus of view (such as at Viewpoint 5 at Sarclet - Figures 14.17 and 14.32) to occupying a more peripheral or oblique position within the field of view from other viewpoints (Viewpoint 12 and 14 for example –Figures 14.24, 14.26, 14.39 and 14.41 and Appendix 14.5).

272. Any visual effects on receptors within the sea will be of limited duration and of a transient nature as marine vessels make their passage past the Wind Farm. Those passing within closer proximity to the Wind Farm will, however, experience major-moderate significance of effects for a limited period of time. This will particularly apply to recreational sailors as they are assumed to also derive an interest and enjoyment from the surrounding seascape.

273. The presence of the turbines will noticeably change the views from the coastline within an approximate 25 km radius, and where visibility permits, they will be a noticeable but minor feature in views for distances of up to approximately 35 km on land. The extent of visibility on land of the Wind Farm is relatively constrained as evidenced by the ZTV plans. Offshore, the Wind Farm will be a noticeable feature for a considerable distance across the expansive open sea and will thus provide an identifiable focal point and visual reference within the maritime setting for the limited numbers of visual receptor groups in this locality.

274. Major and major to moderate significance of visual effects are generally limited to those receptors within localised coastal areas, and those within the immediate seascape of the Wind Farm. Upon consideration of the overall assessment the overall visual effect of the Wind Farm is considered to be of moderate significance.

275. The preceding assessment sets out the various seascape, landscape and visual effects that have been anticipated to arise from the Wind Farm. For ease of reference these are repeated in Table 14.9 below.

Table 14.9 Summary of Effects on Seascape, Landscape and Visual Environment

Residual Effects	Sensitivity of Receptor	Magnitude of Effect	Significance of Effect	Significant in terms of EIA Regulations (Y/N)
Summary of Effects upon Seascape Character				
Duncansby Head to Skirza Head RSU	High	Low to Negligible	Moderate to Negligible, i.e. Minor	N
Skirza Head to Keiss RSU	Medium	Low	Moderate-Minor	N
Sinclair's Bay RSU	Medium	Negligible	Negligible	N
Noss Head to Berriedale RSU	Medium to Low	High	Major-Moderate to Moderate	Y
Berriedale to Helmsdale RSU	Medium to Low	Low to Negligible	Moderate-Minor to Minor to Negligible	N
Coastal Waters SCT	Medium	High to Medium	Major-Moderate to Moderate	Y
Inshore Waters SCT	Low	High	Moderate	N
Deep Sea Fishing and Shipping SCT	Low	Medium (locally)	Moderate-Minor (locally)	N
Summary of Effects upon Landscape Character and Designated Landscapes				
Sweeping Moorland	Medium to Low	Negligible	Negligible	N
Flat Peatland	Medium to Low	Negligible to None	Negligible to None	N
Moorland Slopes and Hills	Medium	Negligible	Negligible	N
Lone Mountains	High	Low to Negligible	Moderate to Negligible, i.e. Minor	N
High Cliffs and Sheltered Bays	High	Negligible	Negligible	N
Long Beaches, Dunes and Links	Medium	Negligible to None	Negligible to None	N
Strath	Low	Negligible to None	Negligible to None	N
Coastal Shelf	High to Medium	Negligible	Negligible	N
Harbour	Low	Low to Negligible	Minor to Negligible	N
Open Intensive Farmland	Medium	Negligible	Negligible	N
Mixed Agricultural and Settlement	Low	Low to Negligible	Minor to Negligible	N

Residual Effects	Sensitivity of Receptor	Magnitude of Effect	Significance of Effect	Significant in terms of EIA Regulations (Y/N)
Small Farms and Crofts	Medium	Low	Moderate-Minor	N
Duncansby Head AGLV	High	Low to Negligible	Minor	N
Morven and Scaraben AGLV	High	Low to Negligible	Minor	N
Peatlands SAWL	High	Low to Negligible	Minor	N
Summary of Effects upon Visual Receptors				
Residents				
Sarclet	High	High	Major	Y
The Travelling Public				
Roads - A9 (north)	Medium to Low	Negligible	Negligible	N
Roads - A882	Medium to Low	Negligible	Negligible	N
Roads - A9 (south)	Medium to Low	Medium to Low	Moderate to Minor	N
Roads - A99	Medium to Low	High to Medium	Major-Moderate to Moderate to Moderate-Minor	Y
Rail	Low	Negligible	Negligible	N
Public Path Users – Duncansby Head coastal path	High	Low	Moderate	N
Lybster path users	High	High - Medium	Major - Moderate	Y
Other paths as per assessment above	High	Low	Moderate	N
Cycle Routes	High - Medium	Negligible	Negligible	N
Ferry Passengers	Medium to Low	Low to None	Moderate-Minor to Minor to None	N
Visitors				
Recreational Sailing	High-Medium	Medium High (temporarily) decreasing to Negligible with distance	Moderate Major-Moderate (temporarily) decreasing to negligible with distance	Y

Residual Effects		Sensitivity of Receptor	Magnitude of Effect	Significance of Effect	Significant in terms of EIA Regulations (Y/N)
Workers at Sea – Fishing and Commercial,		Low	Medium	Moderate-Minor	N
Workers on Oil/Gas Platforms		Low	Low	Minor	N
Summary of Effects upon Representative Viewpoints					
1	Duncansby Head	High	Low to Negligible	Moderate to Negligible i.e. Minor	N
2	Keiss Pier	High Medium to Low	Low to Negligible	Moderate to Negligible i.e. Minor (residents) Moderate-Minor to Minor to Negligible (workers)	N
3	Sortat	High	Negligible to None	Negligible to None	N
4	Wick Bay	High	Medium	Major to Moderate	Y
5	Sarclet	High High to Medium	High	Major (residents) Major to Major-Moderate (visitors)	Y
6	Hill O' Many Stanes	High to Medium	High	Major to Major-Moderate	Y
7	Lybster	High	High to Medium	Major to Major-Moderate	Y
8	Latheron (A9)	Medium to Low	Medium	Moderate to Moderate-Minor	N
9	Dunbeath (nr Heritage Centre)	High High to Medium	Medium	Major-Moderate (residents) Major-Moderate to Moderate (visitors)	Y
10	Whaligoe Steps	High High to Medium	High	Major (residents) Major to Major-Moderate (visitors)	Y
11	Scaraben	High	Low	Moderate	N
12	Navidale	High Medium to Low	Low to Negligible	Moderate-Minor to Minor to Negligible	N
13	Catchory	High Medium to Low	Negligible	Negligible	N
14	Minor Rd, Stemster Hill	Medium to Low	Medium to Low	Moderate to Minor	N

15	Aberdeen to Orkney/ Shetland Ferry Route	Medium to Low	Low to None	Moderate-Minor to Minor to None	N
16	Aberdeen to Orkney/ Shetland Ferry Route	Medium to Low	Low to None	Moderate-Minor to Minor to None	N

14.9 ASSESSMENT OF CUMULATIVE EFFECTS

14.9.1 INTRODUCTION

276. Set out below is the assessment of cumulative effects upon the seascape and landscape character and visual receptors arising from the Wind Farm development in conjunction with other existing or foreseeable planned wind farms.

277. A CIADD (MFOWDG, 2011) was produced which identified the wind farm developments to be considered and the assessment method for each technical assessment and is the basis of this assessment. The CIADD is presented in Annex 5B.

14.9.2 SCOPE OF ASSESSMENT

278. An overview of the scope and outline approach for the methodology of this assessment was previously described in the CIADD (MFOWDG, 2011). This remains unchanged from the method presented in the CIADD (Annex 5B).

279. The assessment of significance of cumulative effects utilises the same criteria to determine significance based on the sensitivity of the receptor and the magnitude of the potential change as presented in Annex 14.2.

280. The assessment of cumulative impact has been made against the existing baseline conditions as presented in Section 14.3.

14.9.3 CONSULTATION

281. The CIADD (MFOWDG, 2011) was presented to Marine Scotland for review in April 2011 for comment.

282. At the time of the CIADD (MFOWDG, 2011) issue the landscape consultants for the Moray Firth Round 3 Development Zone site were not appointed and the coordinated approach to the cumulative SLVIA assessment was only discussed with SNH and Highland Council, along with the main assessment approach, following the document's issue. Please refer to Annex 14.2 for a detailed record of consultation.

14.9.4 GEOGRAPHICAL SCOPE

283. As presented in the CIADD and agreed with the consultees the geographical extent of the study area for the cumulative assessment was a 60 km radius.

14.9.5 DEVELOPMENTS CONSIDERED IN THE ASSESSMENT

284. Section 4.7 of the CIADD (MFOWDG, 2011) (Annex 5B) presented the developments for which it was considered an assessment of cumulative impacts with the BOWL project should be undertaken for the SLVIA. These were:

- Onshore wind farms;
- Beatrice demonstrator turbines; and
- Individual sites within the Moray Firth Round 3 Development Zone Eastern Development area.

285. A meeting was held on the 4th July 2011 with SNH, Marine Scotland, Moray Council and the Moray Firth Round 3 Development Zone and BOWL teams to agree the scope of the cumulative SLVIA. The scope of the SLVIA cumulative assessment was agreed to be limited to the effects of the Wind Farm with other onshore and offshore wind farms only. All other types of development or activities (such as oil/gas platforms or infrastructure developments) were scoped out as it was agreed with the consultees at the meeting that the cumulative effects with other wind farms would be the source of any potentially significant effects.

286. At the time of undertaking the cumulative impact assessment the details of the Moray Firth Round 3 Development Zone, being developed by Moray Offshore Renewables Limited (hereafter referred to as Moray Firth Round 3 Development Zone) project were at a different stage of the design process from the Wind Farm. However, data was made available at a later date and for the purposes of this assessment the Moray Firth Round 3 Development Zone was therefore considered separately in the cumulative assessment. Moreover, the Moray Firth Round 3 Development Zone also has a marine location adjoining the Wind Farm in contrast to the other wind farms considered within the cumulative assessment which are all land based (except for the two existing Beatrice Demonstration turbines).

287. Table 14.10 below lists the wind farms (excluding the Moray Firth Round 3 Development Zone Wind Farm) that have been considered in the cumulative assessment. As of July 15th 2011 there were 7 operational wind farms (including the offshore Beatrice demonstrator turbines), 6 consented and 5 in-planning wind farms (over 50 m hub height) within the Study Area. Please see Figure 14.9 for the location of these wind farms. There were also several wind farms subject to a scoping exercise but these were not included as it had not been possible to get enough information to enable a cumulative assessment of these developments. Table 14.10 below lists the wind farms included within the cumulative assessment. As noted above, the cumulative effects with Moray Firth Round 3 Development Zone were assessed separately.

Table 1414.10 Wind Farms considered in the Cumulative Assessment

Wind Farm	Distance to nearest Beatrice turbine	Number of turbines
Offshore Operational		
Beatrice Demonstrator	7.5 km	2

Wind Farm	Distance to nearest Beatrice turbine	Number of turbines
Onshore Operational		
Achairn	23 km	3
Flex Hill	25 km	3
Boulfruich	28 km	15
Causeymire	35 km	21
Forss	57 km	2
Forss Phase II	57 km	4
Onshore Consented		
Burn of Whilk	18 km	9
Camster	22 km	25
Wathegar	25 km	5
Stroupster	32 km	12
Baille Hill	53 km	21
Gordonbush	55 km	35
Onshore In-Planning		
Upper Smeral	27 km	4
Dunbeath	29 km	22
Halsary	32 km	18
Spittal Hill	35 km	30
Forss Phase III	58 km	5

288. The OfTW was scoped out of the Seascape, Landscape and Visual Assessment in agreement with MS-LOTs and hence has not been assessed cumulatively with the Wind Farm.

289. The OnTW will be assessed with regard to the construction of the substation/coverter station however this is located outwith the 40 km study area and there will be no intervisibility with the Wind Farm. As such no cumulative assessment of the seascape, landscape and visual effects of the Wind Farm with the OnTW is applicable.

14.9.6 PREDICTED CUMULATIVE IMPACTS

290. The potential impacts which have been considered in this section are:

- Changes to the seascape character;
- Changes to landscape character; and
- Visual effects.

14.9.7 CUMULATIVE EFFECTS UPON SEASCAPE CHARACTER

291. The cumulative impact of the Wind Farm with the wind farms listed in Table 14.10 above on the five regional seascape units and three seascape character types was

assessed. Negligible magnitude of effect, and hence significance, of cumulative effects were assessed for the Duncansby Head to Skirza Head RSU, Sinclair's Bay RSU, and the Berriedale and Helmsdale RSU. Similar Negligible magnitude effect and significance of effects were identified for the Deep Sea Fishing and Shipping seascape character type and therefore the effects are not significant. A full assessment of these RSUs and seascape type is presented in Annex 14.8.

292. The cumulative assessment of the remaining RSUs and types is set out below and all are summarised in Table 14.11 below. Please also refer to Figures 14.10 and 14.11 which illustrate the combined ZTVs for all 18 wind farms listed in Table 14.10 above.

14.9.7.1 Remote High Cliffs - Skirza Head to Keiss RSU

293. This RSU extends for a short distance between Skirza Head and Keiss, defined from the north by the lower rocky cliffs and cultivated and settled land. The landward element of this unit will be at closest 28 km from the Wind Farm.

294. There are no existing wind farms located within the Skirza Head to Keiss RSU and therefore any cumulative impacts will be limited to those upon the visual characteristics of the seascape unit. Figures 14.10 and 14.11 illustrate that there is the potential for visibility of up to eight existing/consented sites and up to three 'in-planning' sites. In reality, the consented Stroupster Wind Farm will be, once constructed, the closest to the RSU and will have the most potential to cause cumulative effects in conjunction with the Wind Farm.

295. The Wind Farm will itself be a noticeable feature within the outer sea extents and the onshore wind farms will become a more recessive element against the backdrops of land. Conversely, within the land extents, the Wind Farm will be at a considerable distance so that, whilst it may be noticeable, it won't be prominent in comparison to Stroupster Wind Farm. The Wind Farm will be a minor alteration within some of the characteristic sea views adding to existing land views of Stroupster Wind Farm. Therefore, it was judged that the cumulative magnitude of impact arising from the addition of the Wind Farm is low. As the sensitivity to the type of change proposed was considered medium, the significance of cumulative effect on the Skirza Head to Keiss RSU was assessed as moderate-minor. This is not a significant effect in terms of the EIA Regulations.

14.9.7.2 Rocky Coastline - Noss Head to Berriedale RSU

296. The Wind Farm lies within the outer sea extents of this RSU. There are two operational wind farms which lie within this RSU; the offshore Beatrice demonstrator turbines, and onshore operational Boulfruich Wind Farm. In addition, the consented Burn of Whilk and 'in-planning' wind farms at Dunbeath and Upper Smerral will all lie at the landward extents of the unit.

297. The existing baseline of this RSU as identified on Figures 14.10 and 14.11 shows that the Wind Farm will not introduce any new areas to those that are already exposed to wind farms within this RSU.

298. The existing, consented, and in-planning onshore sites extend along the coast within this unit and, whilst the intervisibility of all the wind farms will be intermittent, the addition of the Wind Farm will increase the perception of wind farms as a characteristic of this seascape unit. The two Beatrice demonstrator turbines are an existing offshore feature within the unit, albeit very minor. They will remain a separate element to the proposed Wind Farm due to both distance and scale.

299. The Wind Farm will contribute to wind farms being a part of the seascape character of this unit. However, the introduction of the Wind Farm into this RSU will bring about a greater individual effect on account of its scale and extent. The cumulative effects arising from its presence within the RSU will be less due to the presence of the various onshore wind farms. Overall, the cumulative magnitude of impact on the character of the RSU was judged as high to medium. As the sensitivity to the type of development proposed was considered to be medium to low, the significance of cumulative effect on the Noss Head to Berriedale RSU was assessed as major-moderate to moderate to moderate-minor, thus moderate overall. Overall, this does not constitute a significant effect in term of the EIA Regulations.

14.9.7.3 Coastal Waters Regional SCT

300. The eastern boundary of the Coastal Waters seascape character type lies at the edge of the Wind Farm. There are no wind farms within the character type so cumulative impacts are limited to impacts upon the visual characteristics that define character.

301. The cumulative ZTV shown in Figure 14.10 illustrate that apart from some very limited coastal areas, the Wind Farm will not expand the area within the Coastal Waters SCT from whence existing and consented wind turbines are potentially seen. There is a concentration of intervisibility with existing wind farms within the northern section of this character area due to the proximity of a number of onshore wind farms and the character of the landform which allows potential long distance inland views. To the south of the character type, the number of wind farms potentially visible decreases to just the Beatrice demonstrator turbines and potentially up to two onshore sites.

302. The proposed wind farm ZTV shown in Figure 14.11 replicates this pattern of concentration in the north with up to 4 sites visible decreasing to up to two sites visible in the southern area.

303. The onshore wind farms all lie a considerable distance inland, except for Burn of Whilk and Stroupster wind farms which lie 1-3 km from the coastline. Collectively they will be seen as recessive elements within a wider view of the land from this open and linear seascape character type. The Beatrice demonstrator turbines are the most likely to have a cumulative effect with the proposed Wind Farm Site. However, as there are only two turbines and at 7.5 km south of the proposed Wind farm Site, they will remain a separate element and minor in comparison to the visual scale and extent of the proposed Wind Farm. The addition of the Wind Farm will increase the extent of turbines as a visual characteristic of the seascape character type, but will have a greater individual effect than cumulative.

304. Therefore, the cumulative magnitude of impact on the character of the seascape character type arising from the addition of the Wind Farm was judged as low. As the sensitivity to the type of development proposed was considered medium, the significance of cumulative effect on the Coastal Waters was assessed as moderate-minor. This is not a significant effect in terms of the EIA Regulations.

14.9.7.4 Inshore Waters Regional SCT

305. The Wind farm Site lies within the Inshore Waters seascape character type. Whilst the ZTVs in Figures 14.10 and 14.11 illustrate that there will be the potential for up to eight existing or consented wind farms to be visible and up to four proposed sites, these will lie a considerable distance onshore from the seascape character type and will be recessive within wider landscape views. Cumulative effects upon the character of this SCT will therefore be limited to the two Beatrice demonstrator turbines. The two turbines are a minor element in views from within the area and at approximately 7.5 km distance from the Wind Farm they will remain a separate element and recessive in comparison to the scale and extent of the Wind Farm.

306. As the Wind Farm lies within the seascape character type and views of other wind farms are recessive, the magnitude of cumulative effects are limited and judged to be low. As the sensitivity to the type of change proposed is likewise judged to be low, the significance of cumulative effect on the Inshore Waters seascape character type was assessed as minor. This is not a significant effect in terms of the EIA Regulations.

Table 14.1114 Summary of Cumulative Effects on Seascape Character

Regional Seascape Unit/Seascape Character Type	Distance to nearest turbine (RSU land extents)	Sensitivity of Seascape	Magnitude of Cumulative Impact	Significance of Cumulative Effect	EIA Regulations Significance (Y/N)
Duncansby Head to Skirza RSU	33 km	High	Negligible	Negligible	N
Skirza Head to Keiss RSU	28 km	Medium	Low	Moderate-Minor	N
Sinclair's Bay RSU	20 km	Medium	Negligible	Negligible	N
Noss Head to Berriedale RSU	0 km	Medium to Low	High to Medium	Major-Moderate to Moderate to Moderate-Minor i.e. Moderate	N overall
Berriedale to Helmsdale RSU	30 km	Medium to Low	Negligible	Negligible	N
Coastal Waters SCT	0 km	Medium	Low	Moderate-Minor	N
Inshore Waters SCT	0 km	Low	Low	Minor	N
Deep Sea Fishing and Shipping SCT	10 km	Low	Negligible	Negligible	N

14.9.8 CUMULATIVE EFFECTS UPON LANDSCAPE CHARACTER AND DESIGNATED LANDSCAPES

307. The cumulative effects arising from the Wind Farm, when added to the other wind farms, upon the landscape character types within the study area was assessed. The magnitude of cumulative impact for all the types except for three, and thus significance of effect, was judged to be negligible or negligible to none. Please refer to Annex 14.8 for the full assessment. The three remaining landscape character types where a higher magnitude of cumulative impact was assessed were for the Lone Mountains, Mixed Agriculture and Settlement, and Small Farms and Crofts. These are discussed below. Table 14.12 below provides a summary of the cumulative impact and significance of effect upon all the landscape character types.

14.9.8.1 Lone Mountains LCT

308. Due to the height of the Lone Mountains this LCT has the potential to have visibility of all the existing, consented and proposed wind farms within the Study Area as illustrated by Figures 14.10 and 14.11. There will not be many views from these elevated locations from whence the wind farms will be seen rising above the horizon line and therefore their prominence will be reduced. It is considered that the addition of the Wind Farm, whilst adding to the number of wind farms potentially visible, and also potentially being a feature in views of the sea, will be another minor element within the expansive panoramic landscape and seascape views that are available from these elevated locations. Aside from views that include the Wind Farm there will be no other cumulative effects upon the defining characteristics of this landscape character type that arise from the presence of the Wind Farm.

309. Therefore it was judged that the magnitude of cumulative impact arising from the addition of the Wind Farm on the Lone Mountains is low to negligible. As the sensitivity to the type of development is high, the significance of cumulative effect on this landscape character type was assessed as moderate to negligible, thus minor. This is not a significant effect in terms of the EIA Regulations.

14.9.8.2 Harbour

310. As the harbours are sheltered and primarily orientated towards the sea, views of other wind farms, existing or proposed, are very limited. The landscape assessment established that for this receptor of low sensitivity there will be a low to negligible magnitude of impact, and hence minor to negligible significance of effect, arising from the Wind Farm upon the character of the Harbour LCT. Given this it can similarly be judged that there will be also a low to negligible magnitude of impact with a minor to negligible significance of cumulative effect arising from the addition of the Wind Farm. This is not a significant effect in terms of the EIA Regulations.

14.9.8.3 Mixed Agricultural and Settlement

311. As described in the landscape baseline, views out to the wider landscape from this character area are not common and where they do exist they include a variety of elements including existing wind farms. The cumulative ZTV in Figure 14.10 shows

that there is the potential to see up to eight existing and consented wind farms from this character type, with a further four proposed sites visible as shown in Figure 14.11. The number of onshore sites visible is limited to within the coastal parts of the landscape type where views of the Wind Farm are most likely to occur. Aside from views that include the Wind Farm there will be no other cumulative effects upon the defining characteristics of this landscape character type that arise from the presence of the Wind Farm.

312. As the Wind Farm will be a recessive element in the limited open coastal views from this character area, and given the number of wind farms in closer proximity, it was judged that the magnitude of cumulative impact on this character area arising from the addition of the Wind Farm will be low to negligible. As the sensitivity to the type of development proposed is low, the significance of cumulative effect on this character type was assessed as minor to negligible. This is not a significant effect in terms of the EIA Regulations.

14.9.8.4 Small Farms and Crofts

313. Sea views are not a defining characteristic of this character type and it was assessed in the main assessment that whilst views of the Wind Farm would potentially become a visual characteristic from some parts of the landscape it would not overall substantially change the key characteristics of the type. The cumulative ZTV in Figures 14.10 shows that where the Wind Farm is visible there is the potential for views of up to 4 existing or consented sites within the majority of the landscape type. Figures 14.11 illustrates that there are also potentially up to four proposed sites visible but only from within a small proportion of the character type.

314. In the northern sector of the character type the consented Stroupster Wind Farm has the most potential for combined views with the Wind Farm. The existing Flexhill, Achairn, Boulfruich and consented Burn of Whilk, Camster and Wathegar wind farms are potentially visible but unlikely to be seen in the same view frame as the proposed Wind Farm. A series of proposed wind farms set in the Sweeping Moorland inland from the Small Farms and Crofts area at Dunbeath and Upper Smerral, and potentially further wind farms around Rumster Forest could create a corridor of turbines around the character type when combined with the Wind Farm. However, distance and intervening landform will reduce the likelihood of this happening. Please also refer to the A9 road sequential effects assessment below. Offshore, the Beatrice demonstrator turbines will be seen close to but as a separate element to the proposed Wind Farm due to the scale and extent of the development. Aside from views that include the Wind Farm there will be no other cumulative effects upon the defining characteristics of this landscape character type that arise from the presence of the Wind Farm.

315. It was judged that the key characteristics of this character type are able to accommodate the addition of the Wind Farm to the limited views of existing and proposed onshore wind farms such that the magnitude of cumulative impact is low. As the sensitivity to the type of development proposed is medium, the significance of cumulative effect on this character area was assessed as moderate-minor. This is not a significant effect in terms of the EIA Regulations.

14.9.9 CUMULATIVE EFFECTS ON DESIGNATED LANDSCAPES

316. The cumulative effects of the Wind Farm on the designated landscapes identified within the Study Area are discussed below. Please refer to Figure 14.4 for the location of these areas, and also ZTV Figures 14.10 and 14.11.

14.9.9.1 Duncansby Head AGLV

317. The cumulative ZTVs illustrate that only at the southern end of the AGLV are there likely to be potential views of one or more existing or consented wind farms and no other proposed wind farms. The consented, but yet to be built, Stroupster Wind Farm is the closest to the AGLV and there is the potential for the turbines to be seen in combination with the Wind Farm. However, the Stroupster Wind Farm will be a much closer and more dominant feature. Aside from distant views that will include the Wind Farm there will be no other cumulative effects upon the defining characteristics of this AGLV that arise from the presence of the Wind Farm.

318. As it has been judged that the Wind Farm will be recessive within views from this area the magnitude of cumulative impact is limited and judged to be low to negligible. As the sensitivity to the proposed development is high, the cumulative significance of effect on this AGLV was assessed as moderate to negligible, thus minor. This does not constitute a significant effect in terms of the EIA Regulations.

14.9.9.2 Morven and Scaraben AGLV and Peatlands SAWL

319. There are no wind farms located within the AGLV or SAWL within the study area. However, the cumulative ZTVs illustrate that views out to the wider area potentially include all of the existing, consented and proposed sites within the study area. The Wind Farm will be another wind farm viewed in succession from limited parts of the AGLV but at a considerable distance and within expansive views. Aside from distant views that will include the Wind Farm there will be no other cumulative effects upon the defining characteristics of this AGLV that arise from the presence of the Wind Farm.

320. It is thus judged that the magnitude of cumulative impact is low to negligible. As the sensitivity to the type of development proposed is high, the significance of cumulative effect on this AGLV and SAWL was assessed as moderate to negligible, thus minor. This does not constitute a significant effect in terms of the EIA Regulations.

Table 14.1214 Summary of Cumulative Effects on Landscape Character and Designated Landscapes

Receptor	Approx. Distance to nearest BOWL turbine	Sensitivity of Receptor	Magnitude of Cumulative Impact	Significance of Cumulative Effect	EIA Regulations Significant (Y/N)
Caithness and Sutherland Landscape Character Types					
Sweeping Moorland	17 km	Medium to Low	Negligible	Negligible	N
Flat Peatland	19 km	Medium to Low	Negligible to None	Negligible to None	N
Moorland Slopes and Hills	24 km	Medium	Negligible	Negligible	N
Lone Mountains	32 km	High	Low to Negligible	Moderate to Negligible, i.e. Minor	N
High Cliffs and Sheltered Bays	30 km	High	Negligible	Negligible	N
Long Beaches, Dunes and Links	23 km	Medium	Negligible to None	Negligible to None	N
Strath	30 km	Low	Negligible to None	Negligible to None	N
Coastal Shelf	34 km	High to Medium	Negligible	Negligible	N
Harbour	17 km	Low	Low - Negligible	Minor - Negligible	N
Open Intensive Farmland	16 km	Medium	Negligible	Negligible	N
Mixed Agricultural and Settlement	15 km	Low	Low to Negligible	Minor to Negligible	N
Small Farms and Crofts	13.5 km	Medium	Low	Moderate-Minor	N
Duncansby Head AGLV	34 km	High	Low to Negligible	Moderate to Negligible, i.e. Minor	N
Morven and Scaraben AGLV	27 km	High	Low to Negligible	Moderate to Negligible, i.e. Minor	N
Peatlands SAWL	29.5 km	High	Low to Negligible	Moderate to Negligible, i.e. Minor	N

14.9.10 CUMULATIVE VISUAL EFFECTS – VISUAL RECEPTOR GROUPS

321. The cumulative effects upon the visual receptor groups identified in the baseline are discussed below. Please also refer to the following cumulative viewpoint assessment.

14.9.10.1 Cumulative Effects upon Local Residents

322. The potential cumulative effects on local residents will vary depending on their proximity and intervisibility with other wind farms and the availability of sea views.

323. The cumulative effects on those residents living closest to the Wind Farm such as at Sarclet will be mainly limited to the Beatrice demonstrator turbines. Where both are visible, the scale and extent of the Wind Farm turbines will be dominant as will the combined cumulative effects with the Beatrice demonstrator turbines and therefore it was judged to have a low to negligible magnitude of effect. As local residents will have a high sensitivity to the type of development proposed, the significance of cumulative effect is moderate to negligible, i.e. minor. This is not a significant effect in terms of the EIA Regulations.

324. Local residents in areas such as Dunbeath have the potential to be surrounded by onshore wind farms sites and will also have views of the Wind Farm and Beatrice demonstrator turbines (albeit at a further distance than Sarclet for example). It was judged that the magnitude of cumulative effect on these areas was moderate. As local residents will have a high sensitivity to the type of development proposed, the significance of cumulative effect was major-moderate. This is a significant effect in terms of the EIA Regulations.

14.9.11 CUMULATIVE EFFECTS UPON THE TRAVELLING PUBLIC

14.9.11.1 Sequential Cumulative Visual Effects from along Main Roads

325. The theoretical sequential cumulative visual impact on a selection of main roads, as agreed with the consultees, has also been assessed using data obtained from the ZTV and transferred to graphs. These illustrate the number of onshore wind farm sites and the Beatrice demonstrator turbines that may theoretically be visible at mile intervals along the routes and indicate the distances from these locations to the various identified wind farms. These graphs are shown in Appendix 14.7 and should be read in conjunction with Figure 14.51 which identifies the agreed routes. Further details on the graph production methods are discussed in the methodology Appendix 14.2.

14.9.11.2 A9 (South) (Appendix 14.8 Graphs 1 and 2)

326. Travelling north along the A9, the existing baseline as shown in Graph 1 includes views of the Beatrice demonstrator turbines for most of the route, with some glimpse views of the existing Boulfruich wind farm between 20 to 30 km from the road and consented Burn of Whilk wind farm within 10 km from the road, both within the stretch of road from Berriedale to Latheron. Also within this area Graph 2 illustrates that the 'in-planning' Dunbeath and Upper Smerral wind farms will be visible, located within 10 km from the road.

327. The majority of the route will have views of only the Wind Farm with the Beatrice demonstrator turbines, further sequential effects will only happen within a limited area and limited number of wind farms between Berriedale and Latheron. Therefore it is considered that the sequential effects on the A9 (South) with the addition of the Wind Farm are limited and the magnitude of sequential cumulative impacts on the A9 (South) was judged as medium to low. As the sensitivity of road users to the type of development is medium to low, the significance of cumulative sequential effect is assessed as moderate to minor. This is not a significant effect in terms of the EIA Regulations.

14.9.11.3 A9 (North) (Appendix 14.8 Graphs 3 and 4)

328. Graphs 3 and 4 illustrate the potential sequential effects of the existing, consented and proposed wind farms along the A9 (North). This shows an almost continuous exposure to up to 16 wind farms at various distances from the road. However, the Wind Farm is potentially only visible within two areas and at such a distance that it will not significantly contribute to the sequential cumulative effects that currently and will exist along the A9 (North).

329. Therefore it was judged that the magnitude of sequential cumulative impacts with the addition of the Wind Farm on the A9 (North) is negligible. As the sensitivity of road users to the type of development is medium to low, the significance of cumulative sequential effect was assessed as negligible. This is not a significant effect in terms of the EIA Regulations.

14.9.11.4 A99 (Annex X9 Graphs 5 and 6)

330. The existing baseline cumulative sequential effects are shown on Graph 5. Without the addition of the Wind Farm there are already potentially a significant number of existing and consented wind farms visible for long stretches of the road.

331. Travelling from Latheron, the baseline sequential effects include the consented Burn of Whilk Wind Farm which will be the most visible onshore site for the longest duration along the road. Boulfruich Wind Farm is only visible for a mile at Mid Clyth. Continuing north along the road at Ulbster the Stroupster Wind Farm becomes potentially visible at approximately 23 km from the road and there is almost continuous visibility of Stroupster along the rest of the road. Achairn, Wathegar, and Flex Hill start becoming visible at Sarclet and have intermittent visibility along the rest of the road to John O'Groats. Camster Wind Farm will also become visible at Wick at between 10 and 22 km away. Causeymire and Baille Hill will only be seen at a couple of points at a considerable distance. The Beatrice demonstrator turbines will potentially be within view between Latheron and Ulbster.

332. In addition to this baseline, the 'in-planning' wind farms will be intermittently visible along the route as shown in Graph 6. Dunbeath and Upper Smerral will be potentially visible in two locations around Lybster. Halsary and Spittal Hill wind farms will become visible for short stretches north of Wick.

333. Overall, the number of existing, consented and 'in-planning' wind farms in close proximity to the road will create sequential effects. In reality, the existing wind farms do not significantly register in the current experience of driving along the A99. However, the consented wind farms at Burn of Whilk and Stroupster which lie closer to the road will become a feature. The addition of Wind Farm, which will be potentially visible for the majority of the road length, will also increase the perception of wind farms as a characteristic of the wider area.

334. Therefore it was judged that the magnitude of sequential cumulative impact arising from the addition of the Wind Farm is high for the A99. As the sensitivity of the travellers to the type of development proposed is medium to low, the significance of cumulative sequential effects was assessed as major-moderate to moderate. This constitutes a significant effect in terms of the EIA Regulations.

14.9.11.5 A882 (Appendix 14.8 Graphs 7 and 8)

335. The graphs illustrate a baseline of potential sequential effects from onshore wind farms which lie within 20 km of the road along the entire length. The addition of Wind Farm will not significantly increase the sequential effects as established above. Therefore it was judged that the magnitude of sequential cumulative effect arising from the addition of the Wind Farm on the A882 is negligible. As the sensitivity of the travellers to the type of development proposed is medium to low, the significance of sequential effect was assessed as negligible. This is not a significant effect in terms of the EIA Regulations.

14.9.11.6 Cumulative Effects upon Public Paths

336. There is potential for cumulative effects with the addition of the Wind Farm to those onshore wind farms sites in close proximity to the coastal path at Lybster. This will include the Beatrice demonstrator turbines in combined views and most likely the recently consented Burn of Whilk Wind Farm, and potentially more distant onshore wind farms viewed in succession. As discussed before, the addition of the proposed Wind Farm with the small number and size of the Beatrice demonstrator turbines does not create a significant cumulative effect, but the potential for successive views of onshore wind farms may increase the perception of being surrounded by them.

337. It was therefore judged that there would be a partial alteration to the key characteristics of public path routes and the magnitude of overall impact is judged as medium. As users of the public paths will have a high sensitivity to the type of development proposed, the significance of effect was major–moderate. This constitutes a significant effect in terms of the EIA Regulations.

14.9.11.7 National Cycle Routes

338. The main assessment established that there will be limited, if any, intervisibility with the Wind Farm giving a negligible magnitude of impact and a negligible significance of effect. Given this it follows that there will be negligible magnitude of cumulative impact which, when correlated against a high to medium sensitivity for this receptor, similarly results in a negligible significance of cumulative effect

arising from the addition of the Wind Farm. This is not a significant effect in terms of EIA Regulations.

14.9.11.8 Cumulative Effects upon Sea Based Receptors

339. Sea based receptors include ferry passengers, recreational sailors and workers at sea and on oil and gas platforms. Cumulative effects arising from the addition of the Wind Farm with onshore wind farms on sea based receptors will be limited by distance from the coast. The onshore wind farms will tend to become recessive elements within the landscape when viewed from the sea, diminishing with distance and therefore have a limited combined cumulative impact with the Wind Farm. The Beatrice demonstrator turbines will potentially provide the greater cumulative effects given their proximity to the Wind Farm. However, as it only consists of two turbines, the extent and scale of the Wind Farm will dominate and the magnitude of cumulative effect is judged as low. As the many sea based receptors' sensitivity to the type of change proposed varies between high - medium to low, the significance of cumulative effect will be vary between moderate and minor depending on type of receptor and proximity to the wind farms. This is not a significant effect in terms of the EIA Regulations.

Table 14.1314 Summary of Cumulative Effects on the Travelling Public

Receptor Group	Distance to nearest turbine	Sensitivity of Receptor	Magnitude of Cumulative Impact	Significance of Cumulative Effect	EIA Regulations Significant (Y/N)
Local Residents	Varies	High	Low - Negligible	Moderate – Negligible, thus Minor	N
Dunbeath Residents	c25 km	High	Medium	Major - Moderate	Y
Roads - A9 (south)	25-40 km	Medium to Low	Medium to Low	Moderate to Minor	N
Roads - A9 (north)	25 – 40km	Medium to Low	Negligible	Negligible	N
Roads - A99	15-40 km	Medium to Low	High	Major-Moderate to Moderate	Y
Roads - A882	18-40 km	Medium to Low	Negligible	Negligible	N
Public Paths	Various	High	Medium	Major-Moderate	Y
National Cycle Routes	Varies	High - Medium	Negligible	Negligible	N
Sea-based Receptors	Various	High - Medium to Low	Low	Moderate to Minor	N

14.9.12 CUMULATIVE VISUAL EFFECTS - VIEWPOINTS

340. The 14 land based viewpoints described in the baseline were assessed for cumulative impacts arising from the addition of the Wind Farm. The two sea-based Viewpoints (15 and 16) are not assessed here due to their considerable distance offshore but are assessed for cumulative effects with the Moray Firth Round 3 Eastern Development Zone in the next section. Three of the viewpoints were assessed as having no cumulative impacts (Viewpoint 3, 4 and 13) whilst a magnitude of low or low to negligible impacts was assessed for Viewpoints 1, 2, 5, 7, 8, 10, 11 and 12. The full cumulative assessment of these Viewpoints is presented in Appendix 14.7. The cumulative assessment of the remaining 3 viewpoints is set out below where the magnitude of cumulative impact was assessed as medium or greater. Table 14.14 below provides a summary of the cumulative effects upon all the Viewpoints. Please refer to the cumulative ZTVs in Figures 14.10 and 14.11, and the cumulative wireframes (Figures 14.48-50) for Viewpoints 1, 11 and 14.

341. No cumulative visual assessment has been made during the night as information on the lighting of the Moray Firth Round 3 Eastern Development Zone was not available for inclusion at the time of preparation of the SLVIA.

14.9.12.1 Viewpoint 6: Hill O' Many Stanes (Figures 14.18 and 14.33)

342. The cumulative ZTVs in Figures 14.10 and 14.11 illustrate that there is the potential for up to two existing or consented wind farms to be visible and no in-planning

wind farms. The Beatrice demonstrator turbines are visible to the south of the proposed Wind Farm and onshore it is likely that the recently consented Burn of Whilk Wind Farm will be visible. The Burn of Whilk Wind Farm lies less than 3 km to the north of the Hill O' Many Stanes and will be a dominant feature in views inland.

343. Whilst views to the south will exclude any views of wind farms, the presence of Burn of Whilk in the north, combined in successional views with the Wind Farm to the east will increase the perception of wind farms as a defining feature in this area.

344. Offshore, similar to the viewpoint at Sarclet, the Beatrice demonstrator turbines lie a considerable distance to the south of the Wind Farm and are recessive, minor elements within the wider view. The Wind Farm will be the more prominent feature and the main visual effects will be of it on its own and therefore there will be limited cumulative effects with the Beatrice demonstrator turbines.

345. Taking the above onshore and offshore sites into consideration, the magnitude of cumulative visual impact arising from the addition of the Wind Farm was judged as medium. As the sensitivity of visitors to the proposed change is high to medium, the significance of cumulative effect was assessed to be major-moderate to moderate. This is a significant effect in terms of the EIA Regulations.

14.9.12.2 Viewpoint 9: Dunbeath (near Heritage Centre) (Figures 14.21 and 14.36)

346. The existing Boulfruich Wind Farm lies behind the viewpoint and can be seen emerging from behind a hill to the north of Dunbeath. The Beatrice demonstrator turbines are also visible a considerable distance to the south of the Wind Farm. The ZTVs on Figures 14.10 and 14.11 show that there is only the potential to see up to 2 existing or consented sites from this viewpoint. However, it is noted that there are proposed wind farms at Dunbeath – Braemore, and Upper Smerral, both of which lie within 10 km of Dunbeath village. Although they may not be visible from the viewpoint, it is more than likely that they will be prominent elements within the surrounding landscape.

347. Cumulative effects will be successional at this viewpoint and there is the potential for wind farms to be a significant feature within this area if the Braemore and Upper Smerral wind farms are consented. As assessed for the above viewpoints, the Beatrice demonstrator turbines will be minor elements within the offshore view in comparison with the proposed Wind Farm. However, both Wind Farm and the Demonstrator turbines will be over 25 km away reducing any cumulative effect with onshore sites.

348. It was therefore judged that the magnitude of cumulative effect arising from the addition of the Wind Farm is medium. As the key receptor group of local residents and visitors have a high and high to medium sensitivity respectively, to the type of change proposed, the significance of cumulative effect was assessed to be major-moderate for residents to major-moderate to moderate for visitors. These are both significant effect in terms of the EIA Regulations.

14.9.12.3 Viewpoint 14: Minor Road, south side of Stemster Hill (Figures 14.26, 14.41 and 14.50)

349. The cumulative wireframe (Figure 14.50) illustrates that onshore to the north, a few blade tips of the consented Camster Wind Farm and the majority of the Burn of Whilk Wind Farm will be visible. The Beatrice demonstrator turbines are also shown to be potentially visible but in reality they are screened from this particular view by intervening vegetation. All other existing or proposed wind farms will be screened from view by the landform. The Camster and Burn of Whilk wind farms lie at a similar distance; approx. 8.5 km from the viewpoint, but the Burn of Whilk Wind Farmis higher and therefore the turbines will appear more prominent. The blade tips of Camster Wind Farm are most likely to be obscured by the forestry which lies on the horizon, therefore the main potential for cumulative effects is with Burn of Whilk Wind Farm and the Wind Farm.

350. The Burn of Whilk Wind Farm will be seen in relatively close proximity to the Wind Farm from this viewpoint but, due to its onshore location and closer distance, its turbines will be much more prominent. However, there is the potential for the Burn of Whilk's coastal position to draw the eye across to the Wind Farm when otherwise they may not have been particularly noticeable and the turbines will become a feature of the coastal part of the viewpoint.

351. Therefore, it was considered that the magnitude of cumulative effect arising from the addition of the Wind Farm is medium to low. As travellers have a medium to low sensitivity to the proposed change, the significance of effect was considered moderate to minor. This is not a significant effect in terms of the EIA Regulations.

352. It is noted that there are plans for a wind farm at Rumster and one at Nottingham Mains which also lie in close vicinity to this viewpoint. As they are currently in scoping it was not possible to get information to use within the assessment. If built, they will potentially be prominent features within the view and thus potentially reduce the prominence of the Wind Farm.

Table 1414.14 Summary of Viewpoint Cumulative Assessment

Viewpoint		Distance to nearest turbine	Receptor Type	Sensitivity of Receptor	Magnitude of Cumulative Impact	Significance of Cumulative Effect	EIA Regulations Significant (Y/N)
1	Duncansby Head	37.74 km	Visitors	High	Negligible	Negligible	N
2	Keiss Pier	27.35 km	Residents Workers	High Medium to Low	Low to Negligible	Moderate to Negligible i.e. Minor (residents) Moderate-Minor to Minor to Negligible (workers)	N
3	Sortat	32.49 km	Residents	High	Negligible to None	Negligible to None	N

Viewpoint		Distance to nearest turbine	Receptor Type	Sensitivity of Receptor	Magnitude of Cumulative Impact	Significance of Cumulative Effect	EIA Regulations Significant (Y/N)
4	Wick Bay (north)	18.04 km	Residents	High	None	None	N
5	Sarclet	13.93 km	Residents Visitors	High High to Medium	Low	Moderate (residents) Moderate to Moderate-Minor (visitors)	N
6	Hill O' Many Stanes	16.78 km	Visitors	High to Medium	Medium	Major-Moderate to Moderate	Y
7	Lybster (end of Main Street)	19.27 km	Residents	High	Low	Moderate	N
8	Latheron (A9)	22.98 km	Travellers	Medium to Low	Low	Moderate-Minor to Minor	N
9	Dunbeath	25.62 km	Residents Visitors	High (High-Medium	Medium	Major-Moderate (residents) Major-Moderate to Moderate (visitors)	Y
10	Whaligoe Steps	15.33 km	Residents Visitors	High (residents) High-Medium (visitors)	Low	Moderate (residents) Moderate to Moderate-Minor (visitors)	N
11	Scaraben	33.06 km	Walkers	High – Medium	Low	Moderate to Moderate-Minor	N
12	Navidale	38.06 km	Residents Travellers	High Medium to Low	Low to Negligible	Moderate to Negligible i.e. Minor (residents) Moderate-Minor to Minor to Negligible (Travellers)	N
13	Catchory	29.48 km	Residents Workers	High Medium to Low	Negligible	Negligible	N
14	Minor Road, south side of	26.28 km	Travellers	Medium to Low	Medium to Low	Moderate to Minor	N

Viewpoint		Distance to nearest turbine	Receptor Type	Sensitivity of Receptor	Magnitude of Cumulative Impact	Significance of Cumulative Effect	EIA Regulations Significant (Y/N)
	Stemster Hill						

14.9.13 SUMMARY OF CUMULATIVE EFFECTS

354. The assessment of cumulative impacts of the Wind Farm with the onshore operational, consented and in-planning wind farms sites found that, due to the offshore location of the Wind Farm, and that the majority of the wind farms within Caithness are located beyond 20 km from the Wind Farm, major or moderate-major significance of effects for combined and successional cumulative impacts were limited to the seascape unit and seascape character type that the Wind Farm will be located in, as well as the closest viewpoints where the Wind Farm will also be seen in the context of a number of onshore wind farms.

355. The potential for effects of the Wind Farm on land is restricted to mainly coastal areas; the consented wind farm at Burn of Whilk which is the closest of the onshore wind farms to the coast provides the most potential for combined or successional cumulative impacts with the Wind Farm. The Burn of Whilk Wind Farm does, however, lie approximately 18 km from the Wind Farm and, due to the limited number and size of the turbines and surrounding topography, the cumulative impacts with the Wind Farm will be confined.

356. The sequential cumulative impacts of the Wind Farm are potentially greater than combined or successional effects given the number of wind farms within the Study Area. The sequential assessment of visibility from the main roads within the Study Area showed that the Wind Farm would potentially add to the existing sequential impacts experienced on the coastal stretches of the A9 (south) and A99. As the closest route to the Wind Farm, and with a number of onshore wind farms sited along the length of the road, the A99 was judged to be affected most and to have a major-moderate to moderate significance of sequential cumulative impact. This is a significant effect in terms of the EIA Regulations.

357. Inland roads such as the A9 (north) and A882 have very limited visibility of the Wind Farm and therefore limited sequential cumulative effects arise as a result of the addition of the Wind Farm.

358. The cumulative effects with the operational Beatrice demonstrator turbines will occur in almost all coastal views of the Wind Farm except for views from the north of Caithness where a combination of distance, coupled with the fact that they lie to the south of the Wind Farm, will prevent any combined views. Also, from inland views the Beatrice demonstrator turbines are less likely to be seen with the Wind Farm due to their smaller height. Where the two developments are seen together, the scale and extent of the Wind Farm becomes the focus and the two smaller Beatrice demonstrator turbines are recessive in views in comparison, thereby limiting significant cumulative impacts.

14.9.14 CUMULATIVE IMPACTS WITH MORAY FIRTH ROUND 3 DEVELOPMENT ZONE

359. The Moray Firth Round 3 Development Zone site lies directly to the east of the Wind Farm, as identified in Figure 14.9. It is currently at pre-planning stage and although turbine layouts and heights are not usually publically accessible at this stage, given the location and scale of the development, consultees have requested

that a cumulative assessment of the Wind Farm with the Moray Firth Round 3 Development Zone site is undertaken. Therefore, through coordination with Moray Firth Round 3 Development Zone, their current worst case scenario layouts for the Eastern Zone have been used to create wireframes from each viewpoint and a ZTV *(*Figures 14.52 - 14.67*)*.

360. The Moray Firth Round 3 Development Zone site, when considered with the proposed Wind Farm Site, will extend the potential area of turbines in the Moray Firth by approximately 10 km to the south, almost 20 km to the south east and 15 km to the east of the Wind Farm. It will not extend any further to the north than Beatrice. The Moray Firth Round 3 Development Zone site lies at closest approximately 22 km from the Caithness coastline.

361. The cumulative ZTV produced for Moray Firth Round 3 Development Zone and Wind Farm indicated that, due to Moray Firth Round 3 Development Zone's further offshore location, but with potentially slightly larger turbines than Beatrice, it will be theoretically visible from the same locations on land as the proposed Beatrice turbines within the Study Area.

362. In order to assess the cumulative effects of the Wind Farm and Moray Firth Round 3 Development Zone, and consistent with the approach used elsewhere within this assessment whereby all existing, consented and in-planning wind farms are considered, the assessment was undertaken on the basis that the Moray Firth Round 3 Development Zone site was existing and thus any potential cumulative effects that might arise come through the addition of the Wind Farm to this baseline. This section assesses only the cumulative effect of the Wind Farm and Moray Firth Round 3 Development Zone as it is judged that given the scale, extent and location of both wind farms that any cumulative effects with any onshore, and the existing Beatrice demonstrator turbines, will not be more significant.

14.9.15 CUMULATIVE EFFECTS UPON SEASCAPE CHARACTER: MORAY FIRTH ROUND 3 DEVELOPMENT ZONE AND BEATRICE

363. The RSUs and seascape character types where a cumulative magnitude of impact of moderate or above was assessed are set out below. An assessment of the other RSUs and seascape character types can be found in Appendix 14.7. Table 14.15 provides a summary of all the cumulative seascape effects arising from the Wind Farm with the Moray Firth Round 3 Development Zone site. Please refer to Figure 14.52 for the combined ZTV of Beatrice and the Moray Firth Round 3 Development Zone.

14.9.15.1 Rocky Coastline – Noss Head to Berriedale RSU

364. The western most turbines of the Moray Firth Round 3 Development Zone Wind Farm will lie within the outer sea extents of this RSU. Moray Firth Round 3 Development Zone will become an element, albeit relatively distant one, of this seascape unit with intervisibility along the coast and across the sea. The addition of the Wind Farm will bring the presence of turbines closer to the coastline and will become a more central feature within the seascape. The scale and extent of both wind farms will combine to become a defining feature within this RSU.

365. It was therefore judged that the magnitude of cumulative impact arising from the addition of the Wind Farm is high to medium. As the sensitivity to the proposed change is considered medium to low, the significance of effect on the Noss Head to Berriedale RSU was assessed as major-moderate to moderate to moderate-minor, thus moderate overall. This is not a significant effect in terms of the EIA Regulations.

14.9.15.2 Coastal Waters Seascape Character Type

366. The Moray Firth Round 3 Development Zone site will lie, at closest, approximately 10 km east of this seascape character type. At this distance, and taking into account the scale and extent of Moray Firth Round 3 Development Zone, the turbines will be a visual characteristic from within a substantial proportion of this seascape character type. The addition of the Wind Farm, which will lie at the edge of the seascape character type, will therefore not be a new visual element. However, due to its closer proximity to the seascape character type it will increase the perception of wind farms as a characteristic from within the area. It was therefore judged that the magnitude of cumulative impact is medium. When combined with a medium sensitivity to the type of development proposed, the overall significance of effect was assessed to be moderate. This is not a significant effect in terms of the EIA Regulations.

Table 14.15 Summary of Cumulative Effects with Moray Firth Round 3 Development Zone on Seascape Character

Regional Seascape Unit/Seascape Character Type	Distance to nearest turbine (RSU land extents)	Sensitivity of Seascape	Magnitude of Cumulative Impact	Significance of Cumulative Effect	EIA Regulations Significant (Y/N)
Duncansby Head to Skirza RSU	33 km	High	Negligible	Negligible	N
Skirza Head to Keiss RSU	28 km	Medium	Low	Moderate-Minor	N
Sinclair's Bay RSU	20 km	Medium	Negligible	Negligible	N
Noss Head to Berriedale RSU	0 km	Medium to Low	High to Medium	Major-Moderate to Moderate to Moderate-Minor i.e. Moderate	N
Berriedale to Helmsdale RSU	30 km	Medium to Low	Low	Moderate-Minor to Minor	N
Coastal Waters SCT	0 km	Medium	Medium	Moderate	N
Inshore Waters SCT	0 km	Low	Low	Minor	N
Deep Sea Fishing and Shipping SCT	10 km	Low	Low (locally) Negligible (generally)	Minor (locally) Negligible (generally)	N

14.9.16 CUMULATIVE EFFECTS UPON LANDSCAPE CHARACTER AND DESIGNATED LANDSCAPE: MORAY FIRTH ROUND 3 DEVELOPMENT ZONE AND BEATRICE

367. The cumulative effects of the Wind Farm with the Moray Firth Round 3 Development Zone on the landscape character types and designated landscapes of the Study Area have been considered. However, it is noted that the conclusions for both the main assessment and the onshore wind farm cumulative assessment concluded that there would be no prospect of significant cumulative effects arising upon either the landscape character types or the landscape designations from the Wind Farm in conjunction with the onshore wind farms, which are located within the landscape character types. Given this, and noting that the Moray Firth Round 3 Development Zone site lies further offshore than the Wind Farm (and thus its ability to effect the character or status of landscapes at distances in excess of approximately 25 km is further limited) it can be concluded that there can be no prospect of significant cumulative effects arising from the Wind Farm in conjunction with the Moray Firth Round 3 Development Zone development.

14.9.17 CUMULATIVE VISUAL EFFECTS – VISUAL RECEPTOR GROUP: MORAY FIRTH ROUND 3 DEVELOPMENT ZONE AND BEATRICE

368. The cumulative effects of the Wind Farm and the Moray Firth Round 3 Development Zone site upon the key visual receptor groups are discussed below. Please also refer to the following cumulative viewpoint assessment.

14.9.17.1 Local Residents

369. The potential cumulative effects on local residents will be generally limited to those within the coastal areas of the study area and will vary depending on the availability of sea views. Please refer to the assessment of the viewpoints below for the cumulative effects on local residents within key parts of the study area. As the Moray Firth Round 3 Development Zone lies further offshore than the Wind Farm, cumulative effects on local residents are limited to those where the Wind Farm already has an individual effect as identified in the main assessment.

14.9.17.2 Roads

370. The cumulative assessment found that the Wind Farm created moderate to minor, and major-moderate to moderate sequential cumulative effects upon travellers on the A9 South and the A99 respectively with the effects upon the A99 being deemed a significant effect in terms of the EIA Regulations. Taking into consideration the fact that the Moray Firth Round 3 Development Zone site lies further offshore than the Wind Farm, the assessed cumulative sequential effects above would not noticeably further change for these roads. There is the potential that the perception of offshore turbines would increase slightly along the A99 as visibility of the Moray Firth Round 3 Development Zone site extends further to the south than Beatrice, but at over distances of 25 km it is unlikely to be a prominent feature.

371. Given this, no additional cumulative effects beyond those already identified above, are anticipated to arise from the addition of the Wind Farm into a receiving environment that already includes Moray Firth Round 3 Development Zone.

14.9.17.3 Public Paths

372. There is the potential for cumulative effects on coastal public paths with open sea views to arise through the addition of the Wind Farm to the Moray Firth Round 3 Development Zone site. Of the paths identified in the baseline, the path at Lybster will potentially have sequential views of both onshore and offshore wind farms along its length. Although the Moray Firth Round 3 Development Zone site lies approximately 26 km at closest, the addition of the Wind Farm at just under 20 km away will potentially further increase the perception of wind farms as a part of the seascape along this path. Taking the distance into account, and also the onshore wind farms, it was therefore judged that there would be a partial alteration to the key characteristics of the routes of public paths and that the magnitude of impact is medium. As users of the public paths will have a high to medium sensitivity to the type of development proposed, the significance of effect was major–moderate to moderate. This is a significant cumulative effect in terms of the EIA Regulations.

14.9.17.4 Sea Based Receptors

373. Cumulative effects of the Wind Farm with the Moray Firth Round 3 Development Zone site on sea-based receptors will increase the closer the receptors are to the two offshore wind farms. As most sea-based receptors are transitory, significant effects will be limited to when they are in close proximity to the sites. The turbines of the two sites will potentially appear as one large wind farm and will be a significant change to the immediate seascape for those receptors in the vicinity. It is therefore judged that the magnitude of cumulative effect on transitory sea-based receptors is high reducing to none according to distance from the two wind farms and the sensitivity of the sea-based receptors. As the many sea-based receptors' sensitivity to the type of change proposed varies between high- medium to low, the significance of cumulative effect will vary between major to major-moderate to none depending on the type of receptor and the proximity to the wind farms. Any identified major to major-moderate effects will constitute a significant cumulative effect in terms of the EIA Regulations.

374. The Wind Farm and Moray Firth Round 3 Eastern Development Zone sites will potentially create a substantial alteration to the surroundings of those sea-based receptors within static situations such as working on the oil/gas platforms which lie close to the sites. Therefore, in these situations, the magnitude of cumulative impact is judged to be high. However, as these receptors are generally occupied in their line of work within an industrial development, it is considered they have a low sensitivity to the type of development proposed, and the significance of cumulative effect is moderate. This is not a significant cumulative effect in terms of the EIA Regulations.

14.9.18 CUMULATIVE EFFECTS AT VIEWPOINTS: MORAY FIRTH ROUND 3 DEVELOPMENT ZONE AND BEATRICE

375. All 16 viewpoints were assessed for the cumulative effects of the Wind Farm with Moray Firth Round 3 Development Zone. Wireframes were produced for each viewpoint illustrating the combined extents of Beatrice and the Moray Firth Round

3 Development Zone site. Please refer to Figures 14.53 to 14.67. The viewpoints where a magnitude of medium or greater impacts were assessed are presented below. Table 14.16 below provides a summary of all the viewpoint cumulative effects with the Moray Firth Round 3 Development Zone site. The assessment of the other viewpoints can be found in Appendix 14.7.

14.9.18.1 Viewpoint 4 – Wick Bay (North) (Figure 14.56)

376. The closest Beatrice turbine lies at 18.04 km from this viewpoint. The Moray Firth Round 3 Development Zone Wind Farm lies approximately 24 km at closest.

377. The wireframe shows that the Moray Firth Round 3 Development Zone and BOWL turbines are visible across the same extent of the view. The Moray Firth Round 3 Development Zone turbines appear behind and between the stacked rows of Beatrice at approximately half to two thirds of the height. At 18 and 24 km away both schemes will be potentially visible with the closer Beatrice turbines larger and clearer. It is apparent at this viewpoint that the grid layout of the Moray Firth Round 3 Development Zone turbines does not run along the same axis as the Beatrice layout and the turbine groupings can be seen at opposing angles. The southern half of both sets of visible turbines appear in a cluttered array, potentially more prominent as the eye is led from the South Head of Wick.

378. It was judged that the magnitude of cumulative impact arising from the addition of the Wind Farm is high to medium at this viewpoint. As the key receptor groups of residents sensitivity to the proposed change is high, the significance of cumulative effect was assessed to be major to major-moderate. This is a significant cumulative effect in terms of the EIA Regulations.

14.9.18.2 Viewpoint 5 – Sarclet (Figure 14.57)

379. The closest Beatrice turbine lies at 13.93 km from this viewpoint. The Moray Firth Round 3 Development Zone Wind Farm lies approximately 22 km at closest.

380. The Wind Farm lies in front of the Moray Firth Round 3 Development Zone turbines and marginally extends across a larger proportion of the view. The Moray Firth Round 3 Development Zone turbines appear approximately half the height of the Beatrice turbines. The grid layout of both schemes is offset from one another so that the Moray Firth Round 3 Development Zone turbines appear in tight groups behind the narrower stacks of the Wind Farme. This causes a high density of turbines in the central parts of the view. The layouts become more chaotic towards the north and to some degree the south where the lines of turbines are less visible and the overlapping columns and blades with random spacing creates a cluttered appearance. Whilst gaps between the two schemes are still visible, the general disordered nature of the turbines in the view at a relatively close distance was judged to give a high magnitude of cumulative effect. As the key receptor group of local residents and visitors to the coast have a high and high to medium sensitivity respectively to the proposed change, the significance of cumulative effect was assessed to be major for residents and major to major-moderate for visitors. Both these are significant cumulative effects in terms of the EIA Regulations.

14.9.18.3 Viewpoint 6: Hill O'Many Stanes (Figure 14.58)

381. The closest Beatrice turbine lies at 16.78 km from this viewpoint whilst the Moray Firth Round 3 Development Zone Wind Farm lies approximately 24 km from this viewpoint at its closest.

382. Across the view, the Wind Farm extends the potential extent of visible turbines to the north and overlaps all but the southern extents of the Moray Firth Round 3 Development Zone Wind Farm which consists of five equally spaced distant stacks of turbines, albeit at some distance. The Beatrice turbines appear marginally taller than the Moray Firth Round 3 Development Zone turbines within the centre of the view and larger to the south as the Moray Firth Round 3 Development Zone Wind Farm becomes more distant. The opposing grid patterns between the Moray Firth Round 3 Development Zone and the Wind Farm are discernible within the southern extents of the view where the stacks overlap. Within the central and northern regions the overlapping two schemes create a dense cluttered mass of turbines.

383. Whilst not appearing quite as chaotic as the view from Sarclet, the composition of the combined schemes is still disordered and lies across a considerable proportion of the view. Therefore it was judged that the magnitude of cumulative visual impact arising from the proposed development is high. As the sensitivity of visitors to the proposed change is high to medium, the significance of cumulative effect is assessed to be major to major-moderate. This constitutes a significant cumulative effect in terms of the EIA Regulations.

14.9.18.4 Viewpoint 7: Lybster (end of Main Street) (Figure 14.59)

384. The closest Beatrice turbine lies at 19.27 km from this viewpoint whilst the Moray Firth Round 3 Development Zone Wind Farm lies approximately 26 km from this viewpoint at its closest.

385. From this viewpoint the Wind Farm lies further to the north than Moray Firth Round 3 Development Zone so that the Beatrice turbines appear on their own at the northern extents and the Moray Firth Round 3 Development Zone turbines on their own to the south. However, the Moray Firth Round 3 Development Zone turbines within this part of the view will be approximately 32 km away from the viewpoint and unlikely to be very prominent when visible. The region of overlap between the two schemes appears as cluttered turbines with no strong patterns evident. The Moray Firth Round 3 Development Zone turbines will be half the height of Beatrice and at 26 km at closest will not be as noticeable as the Beatrice turbines thereby reducing the potential for the busy arrangement to be discernible.

386. Taking this into account, it was judged that the magnitude of cumulative impact is high to medium. As the key receptor group of local residents' sensitivity is high, the significance of cumulative effect was assessed to be major to major-moderate. This is a significant cumulative effect in terms of the EIA Regulations.

14.9.18.5 Viewpoint 8: Latheron (A9) (Figure 14.60)

387. The closest Beatrice turbine lies at 22.98 km from this viewpoint whilst the Moray Firth Round 3 Development Zone Wind Farm lies approximately 30 km from this viewpoint at its closest.

388. Moving further south along the Caithness coast, the overlap of the two schemes becomes less and the potential extent of turbines across the view increases with the Beatrice turbines seen on their own to the north and Moray Firth Round 3 Development Zone turbines to the south. From Latheron, the overlapping of the two schemes potentially creates a mass of turbines with the grid pattern of the Wind Farm discernible whilst the Moray Firth Round 3 Development Zone turbines are arranged at an opposing angle filling in the gaps. However, at distances of approximately 30 km at closest, the Moray Firth Round 3 Development Zone turbines will not be easily visible and the BOWL turbines will appear the more prominent.

389. Taking into account the distance, but also that the extent of turbines potentially visible across the horizon is significantly increased, it was judged that the magnitude of cumulative impact is high to medium. As the key receptor group of travellers have a medium to low sensitivity to the proposed change, the significance of effect was assessed to be moderate to moderate-minor. This is not a significant cumulative effect in terms of the EIA Regulations.

14.9.18.6 Viewpoint 9: Dunbeath (Figure 14.61)

390. The closest Beatrice turbine lies at 25.62 km from this viewpoint whilst the Moray Firth Round 3 Development Zone Wind Farm lies at approximately 32 km from this viewpoint at its closest.

391. The Wind Farm extends the extent of turbines visible across the horizon to the north. The turbines will appear to be approximately double the height of the Moray Firth Round 3 Development Zone turbines given their closer distance to the viewpoint. The busy and cluttered overlapping of the two schemes as shown in the wireframe is unlikely to be as discernible in reality due to the distance that the Moray Firth Round 3 Development Zone turbines lie from the viewpoint. It is also considered that whilst the Beatrice turbines potentially will be more noticeable than the Moray Firth Round 3 Development Zone turbines they will not be prominent in the view.

392. Therefore, it was judged that the magnitude of cumulative impact of the Wind Farm in addition to Moray Firth Round 3 Development Zone is medium to low. As the key receptor group of local residents and visitors have a high and high to medium sensitivity respectively, to the type of change proposed, the significance of effect was assessed to be major-moderate to moderate for residents to major-moderate to moderate to moderate-minor, thus overall moderate for visitors. For residents this is a significant cumulative effect in terms of the EIA Regulations but not significant for visitors.

14.9.18.7 Viewpoint 10: Whaligoe Steps (Figure 14.62)

393. The closest Beatrice turbine lies at 15.33 km from this viewpoint whilst the Moray Firth Round 3 Development Zone Wind Farm lies approximately 22 km from this viewpoint at its closest.

394. The Beatrice turbines cover a marginally longer extent of the horizon than the Moray Firth Round 3 Development Zone turbines which lie behind and appear approximately half the height of the Beatrice turbines. Within the northern extents of the overlapping schemes the two sets of turbines appear cluttered with no apparent pattern. Towards the south of the combined schemes, the grid layout of both the Beatrice and Moray Firth Round 3 Development Zone turbines becomes visible with the stacked rows of Beatrice extending into Moray Firth Round 3 Development Zone's turbines lines which are at a different angle. This gives the perception of a curving line and due to the density will draw the eye. As the lines splay out at the southern extents the Beatrice turbines appear more evenly spaced in front of dense stacks of Moray Firth Round 3 Development Zone turbines. However, the Moray Firth Round 3 Development Zone turbines in this area will be over 35 km away and unlikely to be as visible as shown on the wireframe.

395. The addition of Beatrice will extend the extent of turbines across the horizon, overlap with the Moray Firth Round 3 Development Zone turbines creating a cluttered view, and also, through the grid patterns, potentially lead the eye to the Moray Firth Round 3 Development Zone turbines which may not otherwise have been as prominent. It was therefore judged that the magnitude of cumulative impact is high. As the key receptor groups of residents and visitors have a high and high to medium sensitivity respectively to the proposed change, the significance of cumulative effect was assessed to be major for residents and major to major-moderate for visitors. This constitutes a significant cumulative effect in terms of the EIA Regulations for both these receptor groups.

14.9.18.8 Viewpoint 14: Minor Road, south side of Stemster Hill (Figure 14.66)

396. The closest Beatrice turbine lies at 26.28 km from this viewpoint whilst the Moray Firth Round 3 Development Zone Wind Farm lies approximately 31 km from this viewpoint at its closest.

397. The Beatrice turbines overlap with the central and northern parts of the Moray Firth Round 3 Development Zone Wind Farm and potentially increase the visible turbines across the horizon to the north. However, as discussed in the main assessment, the intervening landform and vegetation will obscure much of the northern turbines from view.

398. The framed sea view focusses the eye towards the overlapping central regions of both schemes. Also, as this viewpoint is slightly elevated, the depth of both schemes is discernible to a certain extent and the addition of Beatrice increases the area of sea visibly occupied with turbines. Both schemes lie beyond 25 km which will decrease the prominence of the turbines but there is the potential that the density of turbines in the centre of the view will be quite noticeable.

399. It was therefore judged that the magnitude of cumulative impact is medium. As travellers have a medium to low sensitivity to the proposed change, the significance of effect was considered moderate to moderate-minor. This is not a significant cumulative effect in terms of the EIA Regulations.

14.9.18.9 Viewpoint 15: Ferry Route (Figure 14.67)

400. Viewpoint 15 lies 19.73 km to the north east of the Wind Farm and approximately 30 km directly east of Wick on the Aberdeen to Orkney/Shetland ferry route. The Moray Firth Round 3 Development Zone Wind Farm lies at a similar distance. The two sites lie separately, with Moray Firth Round 3 Development Zone having the longer extent across the horizon. Beatrice lies between Moray Firth Round 3 Development Zone and the visible landforms of Caithness, approximately a third smaller in horizontal extent. The turbines of both developments are at comparable heights from this viewpoint. Although at almost 20 km away from the ferry route, the combined extent of both wind farms will be a major alteration to the view.

401. It was therefore judged the magnitude of cumulative impact of Beatrice Wind Farm and the Moray Firth Round 3 Development Zone Wind Farm will be high as the ferry passes at this distance but gradually will reduce to none along the course of the ferry trip. As the passengers on the ferry will have a medium to low sensitivity to the proposed change, the overall significance of cumulative effect is considered to be temporarily major-moderate but reducing to none as the ferry passengers move away from this precise viewpoint. In terms of the EIA Regulations there will be a significant cumulative effect at this precise viewpoint but this will become not significant as the ferry moves further away from this viewpoint.

14.9.18.10 Viewpoint 16: Ferry Route (Figure 14.67)

402. Viewpoint 16 is positioned approximately 30 km from both Beatrice Wind Farm and the Moray Firth Round 3 Development Zone Wind Farm. As for viewpoint 15, the Wind Farm extends the horizontal extent of turbines by two thirds of the Moray Firth Round 3 Development Zone extents. They will be a noticeable but not prominent element within the wider sea view at this distance.

403. It was judged that at this point on the ferry route in comparison with Viewpoint 15, the magnitude of cumulative impact of the Wind Farm and the Moray Firth Round 3 Development Zone site was medium-low but this will be only for a short period of time which will gradually reduce to none along the course of the ferry route. As the passengers on the ferry will have a medium to low sensitivity to the proposed change, the significance of cumulative effect is considered temporarily moderate-minor reducing to none. This is not a significant cumulative effect in terms of the EIA Regulations.

Table 1414.16 Summary of Viewpoint Cumulative Effects: Moray Firth Round 3 Development Zone RL and Beatrice

Viewpoint		Distance to nearest turbine	Receptor Type	Sensitivity of Receptor	Magnitude of Cumulative Impact	Significance of Cumulative Impact	EIA Regulations Significant (Y/N)
1	Duncansby Head	37.74 km	Visitors	High	Negligible	Negligible	N
2	Keiss Pier	27.35 km	Residents Workers	High-Medium Low	Low to Negligible	Moderate to Negligible (residents) Moderate-Minor to Minor to Negligible (workers)	N
3	Sortat		Residents	High	None	None	N
4	Wick Bay (north)	18.04 km	Residents	High	High to Medium	Major to Major-Moderate	Y
5	Sarclet	13.93 km	Residents Visitors	High High – Medium	High	Major (residents) Major-Moderate (visitors)	Y Y
6	Hill O' Many Stanes	16.78 km	Visitors	High to Medium	High	Major to Major-Moderate	Y
7	Lybster (end of Main Street)	19.27 km	Residents	High	High to Medium	Major to Major-Moderate	Y
8	Latheron (A9)	22.98 km	Travellers	Medium to Low	High to Medium	Moderate to Moderate-Minor	N
9	Dunbeath	25.62 km	Residents Visitors	High High-Medium	Medium to Low	Major-Moderate to Moderate (residents) Major-Moderate to Moderate to Moderate-Minor i.e. Minor (visitors)	Y N
10	Whaligoe Steps	15.33 km	Residents Visitors	High High-Medium	High	Major (residents) Major to Major-Moderate (visitors)	Y Y

Viewpoint		Distance to nearest turbine	Receptor Type	Sensitivity of Receptor	Magnitude of Cumulative Impact	Significance of Cumulative Impact	EIA Regulations Significant (Y/N)
11	Scaraben	33.06 km	Walkers	High–Medium	Negligible	Negligible	N
12	Navidale	38.06 km	Residents Travellers	High Medium to Low	Low	Moderate Moderate-Minor to Minor	N
13	Catchory		Residents Workers	High Medium to Low	None	None	N
14	Minor Road, south side of Stemster Hill	26.28 km	Travellers	Medium to Low	Medium	Moderate to Moderate-Minor	N
15	Aberdeen to Orkney/ Shetland Ferry Route	19.73 km	Travellers	Medium to Low	High to None	Major-Moderate to None	Y to N
16	Aberdeen to Orkney/ Shetland Ferry Route	29.74 km	Travellers	Medium to Low	Medium-Low to None	Moderate-Minor to None	N

14.9.19 MITIGATION MEASURES

404. The inherent characteristics of the Wind Farm and the defined development site area mean that there are very limited opportunities for incorporating mitigation measures for cumulative seascape, landscape and visual impacts. Mitigation is also constrained by engineering and other technical issues to enable deliverability of the Wind Farm. However, embedded mitigation is included within the scheme through the broadly uniform layout and the consistent height of the turbines utilised throughout the site. Additional embedded mitigation will also be included, in so far as it is possible, through the coordination in detail design with the layout of the Moray Firth Round 3 Development Zone Wind Farm as the detailed layout proposals for both schemes firm up.

405. The residual cumulative effects upon the seascape and landscape environments and upon visual receptor groups arising during the operation of the Beatrice Wind Farm are as identified within the cumulative assessment above.

14.9.20 RESIDUAL CUMULATIVE IMPACTS

406. As discussed above, as there are limited mitigation opportunities for reducing further the seascape, landscape and visual impacts of the Wind Farm, the residual impacts will be the same as the impacts predicted in the sections above.

14.9.21 MONITORING AND ENHANCEMENTS

407. No monitoring is required for cumulative seascape, landscape and visual impacts.

14.9.22 SUMMARY OF CUMULATIVE EFFECTS WITH MORAY FIRTH ROUND 3 DEVELOPMENT ZONE

408. The addition of the Wind Farm to the seascape with the premise that the Moray Firth Round 3 Development Zone site is part of the existing baseline reduces the cumulative impact on seascape character given the larger scale and extent of the Moray Firth Round 3 Development Zone Wind Farm. However, within the Noss Head to Berriedale regional seascape unit, and also the Coastal Waters seascape character type, the Wind Farm's closer location to the coast will increase the perception of turbines as a defining feature and therefore be a major alteration to the baseline situation in combination with Moray Firth Round 3 Development Zone.

409. The cumulative effects on land based receptors arising from the addition of the Wind Farm to a baseline including the Moray Firth Round 3 Development Zone Wind Farm are considerably reduced by the distance of both developments from the coastline. The main significant cumulative effects are confined to within an approximately 25 km radius coastal area, from Wick to Dunbeath as shown by the assessment of major-moderate effects from coastal viewpoints within this area. Within the views from these areas, the arrangements of the turbines from both wind farms will combine and overlap to potentially give a cluttered appearance where visibility of the further offshore turbines is possible. However, it is also acknowledged that the Moray Firth Round 3 Eastern Development Zone turbines will always lie behind or further away than Beatrice so that the full extents shown on the wireframes *(*Figures 14.53-14.66*)* are unlikely to be always noticeable, and in the main, it will be the Beatrice turbines on their own that create any visual effects from land.

410. The mass and scale of the combined Moray Firth Round 3 Development Zone Wind Farm and the Beatrice Wind Farm will be experienced the most from the sea, as confirmed by the assessment of major-moderate effects on the Noss Head to Berriedale regional seascape unit and ferry route, viewpoint 15. In addition, as shown on the wireframes from the Aberdeen to Orkney/Shetland ferry routes (Figure 14.67), there is the potential for a large extent of the horizon to be filled by turbines. It will be a significant feature for those receptors that pass within close proximity to the two sites. However, for those sea-based receptors the significant effects will only be transitory as they make passage across the area within sight of the two wind farms.

14.9.23 STATEMENT OF SIGNIFICANCE

411. The Wind Farm is 13.5 km east of the Caithness Coast, the closest point of landfall being near the small village of Sarclet, south of Wick. The assessment, including cumulative, has considered the various likely seascape, landscape and visual effects that are anticipated to arise as a result of the introduction of the Wind Farm into the existing environment.

412. Consultation was undertaken with the appropriate statutory consultees in order to reach agreement upon the scope of the assessment including the worst case scenario scheme option to be assessed;, the extent of the study area; the assessment

methodology to be used; the methodology to be employed in defining the existing seascape environment; the number and location of representative viewpoints to be utilised within the assessment; and, the scope of the cumulative assessment. The scheme agreed as constituting the realistic worst case scenario option was identified as comprising 142 turbines rising to a blade tip height of 198.4 m above LAT. Assessment of this scheme has helped to identify the following potentially significant effects upon the existing seascape, landscape and visual environments.

413. With regard to the potentially significant effects upon seascape character these will be focused upon the area of seascape within and immediately around the Wind Farm, extending towards the coastline principally between Noss Head and Berriedale, the significant effects being upon the Noss Head to Berriedale (RSU and the Coastal Waters SCT. Whilst the character of other RSUs and SCTs within the study area will experience some lesser effects these will be confined to effects upon their visual attributes only and as such not be significant in terms of the EIA Regulations.

414. Given the distance of the Wind Farm from the coastline, potential effects upon the character of landscape character types (LCTs) falling within the study area of the assessment are not anticipated to be significant. Whilst effects vary in their significance between negligible to none to moderate-minor at worst, none of these are considered to be significant in terms of the EIA Regulations and any such effects will, in any case, be confined to indirect effects upon the visual attributes that contribute to defining their character only. The assessment has also considered potential effects upon the character of the AGLVs and SAWL and none of these have been found to be significant, being no more than minor.

415. The Wind Farm will also bring about potential effects upon visual receptors (i.e. people) and the assessment has considered the potential effects upon various visual receptor categories generically as well as from an array of agreed representative viewpoints. Those receptor groups identified as most likely to experience significant visual effects are residents, footpath users and motorists along some of the most visually exposed sections of the local road network, in particular the A99 between Wick and Lybster. Whilst offshore recreational sailors are anticipated to be significantly affected where they come within reasonably close proximity of the Wind Farm, marine based workers are not anticipated to be significantly affected given their reduced sensitivity.

416. The viewpoint assessment considered the potential effects arising from the Wind Farm from a range of locations along the coastline and inland between John O' Groats and Helmsdale as well as a couple of offshore locations along the principal ferry route between Aberdeen and the Orkney Islands. This assessment largely endorses the pattern of significant effects upon visual receptor groups in that the potentially significant effects are all anticipated to occur within the Wick to Dunbeath coastal stretch. This largely coincides with the extent of potentially significant effects upon SCTs and RSUs. The effects upon the ferry routes were not found to be significant.

417. A cumulative assessment was also undertaken to identify and consider the extent of potentially significant cumulative effects arising from the addition of the Wind Farm into the existing receiving environment. Early consultation and research identified a number of operational, consented and in-planning onshore wind farm developments within a wider 60 km radius study area and these were included within the cumulative assessment as were the operational Beatrice demonstrator turbines and the proposed eastern Moray Firth Round 3 Development Zone development, the latter being considered separately due to its pre-planning status and thus the uncertainty regarding the scheme's data.

418. The cumulative assessment of the Wind Farm with all onshore sites and the Beatrice demonstrator turbines identified that there would be no overall cumulative effects upon seascape character, there being limited intervisibility with the majority of onshore developments and the cumulative offshore effects with the Beatrice demonstrator turbines being effectively the same as for the Wind Farm on its own. Likewise there were found to be no significant cumulative effects upon any of the LCTs, AGLVs or the SAWL this, in part, reflecting the different setting and context of the offshore-sited Wind Farm as opposed to the various onshore wind farm developments.

419. Potentially significant cumulative effects upon visual receptor groups was found to be effectively the same as for the Wind Farm itself with significant effects anticipated upon some local residents (e.g. at Dunbeath), users of the more exposed coastal public footpaths and travellers along the A99 between Wick and Latheron. The cumulative viewpoint assessment found that significant cumulative effects would occur at Viewpoints 6 (Hill O'Many Staines) and 9 (Dunbeath) as these afforded the greatest views of the Wind Farm with the other various identified onshore wind farms. Overall, significant combined and successional cumulative effects are anticipated to be confined to the onshore and offshore coastal margins where the Wind Farm will be seen in the context of a number of onshore wind farms with the Burn of Whilk Wind Farm contributing most frequently to potentially significant cumulative effects.

420. As a separate, but related, exercise the assessment has also considered the potential cumulative effects arising from the Wind Farm in conjunction with the Moray Firth Round 3 Development Zone development (Eastern development zone only). The assessment has found that none of the cumulative effects with Moray Firth Round 3 Development Zone upon seascape character will be significant, principally due to Moray Firth Round 3 Development Zone's greater distance offshore. Likewise there will be no significant cumulative effects upon the character of the LCTs or the designated landscapes (AGLVs and SAWL) for the same reasons.

421. The cumulative viewpoint assessment of the Wind Farm with the Moray Firth Round 3 Development Zone development (eastern zone) identified that the source of greatest potentially significant cumulative effects upon onshore visual receptors will again be upon those receptors, principally residents, footpath users and motorists located closest to the two sites along the coastline between Wick and Dunbeath. This is confirmed by the cumulative viewpoint assessment which has

demonstrated that from views within this area both wind farms will combine and be visible. Offshore receptors, principally recreational sailors as they have the greatest sensitivity, will also experience significant cumulative effects over a greater area within proximity to either site as will ferry travellers (as illustrated by the assessments for viewpoint 15).

422. Whilst the assessment has identified that a range of significant effects will arise from the Wind Farm these will primarily be upon a localised area of seascape character that largely coincides in its extent with an adjoining coastal area of significant effects upon selected visual receptors (predominantly residents with exposed seaward views, footpath users and stretches of exposed coastal roads).

14.10 REFERENCES

423. The references used in the SLVIA of the Wind Farm are as follows:

424. Countryside Agency (now Natural England) (2002) Landscape Character Assessment Guidance.

425. DTI (2005) Guidance on the Assessment of Effect of Offshore Wind Farms: Seascape and Visual Effect Report.

426. GSA (2001) Maritime Ireland/Wales Interreg 1994 - 1999 Guidance 'Guide to Best Practice in Seascape Assessment.

427. Horner & Maclennan (2005) Beatrice Demonstrator Wind Turbines LVIA.

428. Institute of Environmental Management and Assessment (IEMA) and Landscape Institute's (LI) (2002) Guidelines for Landscape and Visual Effect Assessment.

429. MFOWDG (2011) Moray Firth Offshore Wind Developers Group, Cumulative Impacts Assessment Discussion Document.

430. Office for the Deputy Prime Minister (ODPM) (2004) The Companion Guide to PPS22.

431. RYA (2009) RYA UK Coastal Atlas of Recreational Boating.

432. SNH (2009) Siting and Design of Windfarms.

433. SNH (2006) (albeit published in 2007) Visual Representation of Windfarms Best Practice Guidance.

434. SNH (2005) An assessment of the sensitivity and capacity of the Scottish seascape in relation to windfarms.

435. SNH (2005) Commissioned Report 103 An assessment of the sensitivity and capacity of the Scottish Seascape in relation to Wind Farms.

436. SNH (2005) Cumulative Effects on Windfarms.

437. SNH (1998) Caithness and Sutherland Landscape Character Assessment.

438. SNH (1970) Beaches of Caithness.

APPENDIX 14.1: RECORD OF CONSULTATION

Highland Council			
Date of consultation	**Type of consultation**	**Purpose of consultation**	**Response from consultee**
12th November 2010	Email to Development Management, HC	Introduction and request for conference call attendance	
15th November 2010	Email from Anne Cowling, Landscape Officer		Confirmation that Anne Cowling and Gordon Mooney are the contacts and are available for the conference call
17th November 2010	Phone calls (and email) to AC and GM	Confirming conference call times and possible meeting dates	
17th November 2010	Email to AC	Request for any cumulative GIS data	Response from AC that she would look to see if any info was available
19th November 2010	Email to AC and GM	Issue of agenda for call and viewpoint list and ZTVs via ftp site	
23rd November 2010	Conference Call and follow up email		
26th November 2010	Email to AC and GM	Request for any additional viewpoints prior to site visit	Response from AC with viewpoints and roads list
7th December 2010	Email	Issue of Conference Call notes	
9th December 2010	Email and FTP site	Issue of agenda, plans and viewpoints for meeting	
14th December 2010	Email	Issue of revised conference call notes	
14th December 2010	Email from GM		Response to Conference call notes
20th December 2010	Email to SNH	Issue of meeting notes	
20th January 2011	Phone call to AC and email to AC and GM	Issue of revised meeting notes, viewpoint list, plan and cumulative data	
20th January 2011	Email from GM		GM responded with info on cumulative sites and stated he would get back to us on viewpoints
28th January 2011	Email and Letter to Michael Bland at MS, SNH cc'd	Issue of visualisation statement with regards to HC and SNH guidance	
5th April 2011	Letter received from Marine Scotland, HC and SNH cc'd		Response requesting a combination of both SNH and HC guidance to be used

Highland Council			
Date of consultation	**Type of consultation**	**Purpose of consultation**	**Response from consultee**
4th July 2011	Joint meeting with SNH, MS, Moray Council	Discuss cumulative approach with MORL and individual assessment approaches	
12th July 2011	Email to HC	Issue of notes to request confirmation of the SLVIA approach	
21st July 2011	Email to HC	Request for response to approach	
22nd July 2011	Email to HC (SNH and MS cc'd)	Issue of viewpoint photographs for confirmation of viewpoints to be presented to HC guidance	
22nd July 2011	Email from David Mudie		Query regarding photography details
22nd July 2011	Email to David Mudie	Response confirmed that approach complies with HC guidance	
9th and 11th August 2011	Phone calls and emails	Request for response to approach and viewpoints	
11th and 12th August 2011	Emails from David Mudie and Anne Cowling		Confirming a response would be issued shortly
24th August 2011	Email from Anne Cowling		List of views for HC visualisations, comments on study area and lighting
24th August 2011	Email to HC	Confirming viewpoints to be used for HC visualisation and response to study area and lighting comments.	
29th September 2011	Meeting at MS Offices, Aberdeen	Discussion on findings of SLVIA	
3rd November 2011	Email from Anne Cowling	Comments on baseline and technical reports	

APPENDIX 14.2: ASSESSMENT METHODOLOGY

14.1 EXISTING METHODOLOGY INTRODUCTION

1. LDA Design has an established methodology for carrying out Seascape, Landscape and Visual Impact Assessments (SLVIAs) for proposed offshore wind farm developments. The methodology is described below along with any variations specific to this particular assessment.

14.2 OVERVIEW

2. The methodology employed has 4 key stages, which are described in more detail in subsequent sections, as follows:

- Baseline – includes the gathering of documented information; scoping of the assessment and agreement of that scope with the client, EIA coordinator and local planning authority; site visits; and, initial reports to client and/or EIA coordinator of any issues that may need to be addressed within the design;
- Design – where appropriate, review of initial layout/ options, turbine choice(s), and mitigation options and input into the design of the development;
- Assessment – includes an assessment of the seascape, landscape and visual effects of the full scheme, requiring site based work and the completion of a full report and supporting graphics; and
- Cumulative Assessment – assesses the effects of the proposal in combination with other wind farm developments.

3. The general assessment methodology draws upon the established recognised guidance including:

- SNH (2005) Commissioned Report 103 An assessment of the sensitivity and capacity of the Scottish Seascape in relation to Wind Farms;
- SNH (2005) Cumulative Effects on Windfarms;
- DTI (2005) Guidance on the Assessment of Effect of Offshore Wind Farms: Seascape and Visual Effect Report;
- Institute of Environmental Management and Assessment (IEMA) and Landscape Institute's (LI) (2002) Guidelines for Landscape and Visual Effect Assessment;
- GSA (2001) Maritime Ireland/Wales Interreg 1994 - 1999 Guidance 'Guide to Best Practice in Seascape Assessment;
- SNH (2009) Siting and Design of Windfarms;
- SNH (2006) (albeit published in 2007) Visual Representation of Windfarms Best Practice Guidance;
- Countryside Agency (now Natural England) (2002) Landscape Character Assessment Guidance; and
- ODPM (2004) The companion Guide to PPS22

4. The assessment is necessarily iterative, with stages overlapping in parts.

5. Specific methodologies relevant to offshore wind farm developments are particularly relevant and the proposed methodology for the seascape assessment

includes both the existing guidance set out in the Maritime Ireland/Wales Interreg 1994-1999 Guidance 'Guide to Best Practice in Seascape Assessment', (GSA), published in March 2001, and the emerging NE/SNH seascape characterisation guidance.

6. The continuing advancement and development of offshore wind energy and other renewable energy projects is being accompanied by an increasing recognition of the relative lack of knowledge that is held on the marine environment compared to the terrestrial. This has been recognised through recent central government initiatives and has also been identified by Natural England (NE) and Scottish Natural Heritage who jointly commissioned LDA Design in late 2010 to prepare a new, common methodology for seascape characterisation. Whilst the emerging seascape characterisation methodology will draw upon the worthy work undertaken by the Countryside Council for Wales (CCW), and subsequent associated work by Scottish Natural Heritage (SNH), it will also take the methodology guidance into a slightly different direction, given that the existing seascape characterisation methodologies are now generally acknowledged as relying too heavily upon the visual attributes that contribute to defining character, rather than adopting a more balanced approach that considers the wider range of elements that collectively define a seascape's character. A driver behind this is also known to be a desire to ensure greater consistency in approach for terrestrial and marine characterisation work in compliance with the European Landscape Convention which requires that seascape be viewed and treated as landscape.

7. To date LDA Design's standard seascape characterisation methodology has followed the 2001 CCW GSA guidance which requires the identification of regional seascape units (RSUs). However, for this SLVIA, given LDA Design's authorship of the emerging NE/SNH draft seascape characterisation, it was initially agreed with SNH (Highland Council confirmed that they were content for SNH to take the lead on this matter) that it would be sensible for the Wind Farm SLVIA to be undertaken in accordance with the new emerging methodology. As the emerging NE and SNH methodology has not been made publically available as a consultation draft, , LDA Design elected to also undertake the seascape characterisation identification and assessment consistent with the 2001 CCW GSA guidance. The seascape assessment thus embraces both methodologies.

8. Assessment methodologies commonly aim to systematically appraise the existing landscape / seascape condition, to identify all the significant physical and visual characteristics and assess their quality or value as well as the perceived, visual amenity value. These then provide a baseline against which the key seascape / landscape and visual effects can be predicted and evaluated and their magnitude and significance assessed in a logical and well-reasoned fashion.

14.2.1 GSA SEASCAPE METHODOLOGY

9. The GSA (March 2001) seascape methodology sets out a clear methodology for undertaking seascape characterisation and for the assessment process. The guidance document is the result of joint pilot studies carried out between Wales and Ireland and sets out a clear process for undertaking a seascape assessment. It

also provides practical guidance for undertaking field survey work and the field study forms are utilised during site assessment work.

14.2.2 EMERGING SEASCAPE METHODOLOGY

10. The emerging seascape methodology differs from the GSA in that it maps the seascape character in a similar manner to a landscape character assessment with less reliance on visual attributes. There is obviously no existing seascape characterisation for the study area given that the guidance has not been published yet, so for the purposes of this SLVIA, a 'light' version of the methodology has been used to define seascape character types. This will take into account available datasets on bathymetry, water levels, recreation and tourism, offshore infrastructure (oil, gas, wind farms), shipping routes, fish spawning and nursery grounds, wrecks, and marine designations. It is acknowledged that a full seascape assessment would be a separate project and include many more elements and detailed site survey, however, a general understanding of the seascape character sufficient for the purposes of assessing an offshore wind farm can be obtained through utilising the above information.

11. In brief, the layering of datasets using GIS enables seascape character types to be established, much like the process for landscape character types. The characteristics will include elements which are not necessarily visible on the surface such as bathymetry and fish spawning areas. Relationships become apparent such as the shallower coastal waters often have a much greater activity under and above water, manmade and natural than deeper remote waters. The resultant character types may not appear different on the surface but, as for landscape characterisation, it is as much about having a tool to enable the appropriate management and development of the sea. The visible characteristics of the seascape character types will be the most relevant in assessing the impact of the offshore wind farm from a seascape and visual aspect, and as such the 'light' characterisation proposed within this assessment will be more focussed on these visible elements.

12. A combination of these methodologies has been used in this assessment. The method of identifying seascape units in this assessment is defined below.

14.3 BASELINE

13. The baseline study establishes the relevant planning policy context, the scope of the assessment and the key seascape, landscape and visual receptors. It includes the following key activities:

- A desk study of relevant current national, regional and local planning policy for the site and surrounding areas;
- Agreement of the main study area radius with the local planning authority;
- A desk study of nationally, regionally and locally designated landscapes within the agreed study area as appropriate;
- A desk study of existing landscape and seascape character assessments for the site and surrounding areas, at national, regional and local level as appropriate;

- Draft Zone of Theoretical Visibility (ZTV) studies to assist in identifying potential representative viewpoints and to indicate the potential visibility of the proposed offshore wind farm, and therefore the scope of receptors likely to be affected;
- The identification of and agreement upon, through consultation, the scope of assessment for cumulative effects;
- The identification of and agreement upon, through consultation, the number and location of representative viewpoints within the study area;
- Identification of the range of other visual receptors within the study area; and
- Site visits to become familiar with the site and surrounding seascape and landscape and to identify viewpoints and receptors.

14. During this stage, the scheme design may not yet have been finalised and there may be a degree of iteration between this stage (particularly in respect of preparing ZTV studies and consequent changes to likely effects on receptors) whilst the design is finalised.

15. Correspondence with the local planning authority and consultees regarding study area, methodology, the cumulative scope and the number and location of representative viewpoints is included in Appendix 14.1.

14.4 METHODOLOGY FOR IDENTIFICATION OF SEASCAPE UNITS

16. The Guide to Best Practice in Seascape Assessment (GSA) (March 2001) states clearly that:

> *'Seascape assessment is an extension of landscape character assessment rather than a specialism in its own right. It does not replace the need for a thorough landscape assessment on land (para 1.6).'*

17. It is therefore important to recognise the interrelationship between, and interdependency of, the sea and land. Identified seascape units will thus, whatever their scale and extent, straddle segments of the coastline with their character being defined by both seaward and landward elements. The GSA then highlights that, whilst some key elements in seascape assessment are common to landscape assessment, there are others that are noticeably different or wholly absent from landscape character assessment work. The key differences are identified as:

- The effects of historic and cultural issues related to the marine environment;
- The coastline acting as a clearly defined edge;
- Variability and dynamism associated with the marine and coastal components;
- Difficulties associated with understanding the scale and distance of elements set within the marine component;
- Different principals of visual movement arising from the coastline and marine components;
- Amenity functions and uses of the seashore; and
- Functions and uses of the sea.

18. Paragraphs 2.1 – 2.7 of the GSA, review each of these in turn, in further detail, highlighting key characteristics and issues. All elements, quite correctly, need to be

considered during the process of defining the geographical extent of seascape units. Worthy of particular highlight are the issues associated with visibility, both from the land towards the sea, and vice versa. Clarity of visibility is in turn determined by prevailing weather conditions including such aspects as air moisture content and air pressure. Visibility in turn, influences the visual receptor's perception of distance and there are inherent difficulties in judging both scale and distance when looking across expanses of sea. Perspective can often be condensed and misread due to an absence of reference points to provide a sense of scale. Moreover, where the immediate coastline shelves gently, a further dynamic is introduced into the view, varying according to the state of the tide and the resultant extent of exposed foreshore. This both changes the character of local areas on a regular basis and also further alters visual judgments. To accommodate all of these various elements the seascape assessment process requires sufficient time to be spent on site to enable a proper understanding of the local environment.

19. Chapter 4 of the GSA provides clear guidance on the identification of the spatial extent of seascape units. The GSA proposes three tiers of units, namely: national, regional and local, and notes that the smaller units will effectively 'reside' within the larger regional and national units. Clear guidance is given on both the seaward and landward extent of the various scaled seascape units as well as suggestions as to their likely lateral extent along the coastline. Whilst the landward extent of seascape units can be more readily defined due to the multitude of physical elements and the complexity of landform, it is far more difficult to define a seaward extent. Thus, visibility becomes a key component in defining the seaward extent of the seascape units which can overlap as they 'bleed out' along the coastline.

14.4.1 NATIONAL SEASCAPE UNIT

20. The GSA advises that national seascape units will cover extensive sections of the coastline where there is an overriding common defining characteristic such as coastal orientation or landform. It suggests that such units will be defined by major headlands of national significance. The units are then defined as extending for up to 24 km offshore and inland to the full extent of the Zone of Visual Influence (ZVI). Coastal orientation and the topography of the coastline are identified as key defining characteristics.

21. Scottish Natural Heritage commissioned a report; no.103 'An assessment of the sensitivity and capacity of the Scottish seascape in relation to wind farms' (Scott et al, 2005) to contribute to strategic guidance on identifying the Scottish seascape areas where offshore wind energy development is likely to have least effects. Based largely on the GSA guidance but with some modifications that take in to account the complex seascapes of Scotland, it identifies 33 seascape units in Scotland and describes their character and sensitivity to wind farm development.

14.4.2 REGIONAL SEASCAPE UNITS

22. The GSA advises that the most appropriate scale for undertaking seascape characterisation in association with coastal developments, such as offshore wind farms, is the regional unit. It sets out the main recommended parameters for

defining regional seascape units, which are noted as generally extending for up to 15 km offshore and inland for up to 10 km. It is noted that the landward extent of the regional seascape unit may well include areas of visually dead ground i.e. areas of land that are not intervisible with the sea component of the unit.

23. No assessment of local level seascape is required as the guidance documents indicate that regional is the applicable level of assessment for offshore infrastructure projects.

14.4.2.1 Defining Capacity for Change

24. The Guide to Best Practice in Seascape Assessment defines the evaluation process, and the issues to be considered as seeking to define the capacity of a seascape unit to accommodate the changes arising from proposed offshore wind farm developments. The GSA states that '*Seascape evaluation is defined as the judgement and ranking of seascapes according to their quality, value or capacity to accommodate change*'. The GSA provides key guidance as to how quality, value and the capacity to accommodate change should be evaluated and this process has been followed and applied to the identified regional seascape units.

14.5 ESTABLISHING THE BASELINE: LANDSCAPE CHARACTER

25. The European Landscape Convention (2000) provides the following definition:

> *"Landscape means an area, as perceived by people, whose character is the result of the action and interaction of natural and/or human factors."*

26. The Landscape Character Assessment – Guidance for England and Scotland, CA/SNH, 2002 defines landscape character as:

> *"the distinct, recognisable and consistent pattern of elements in the landscape that makes one area different from another."*

27. It also notes that (para. 2.1):

> *"Character makes each part of the landscape distinct, and gives each its particular sense of place. Whether we value certain landscapes for their distinctiveness, or for other reasons, is a separate question."*

28. Landscape character assessment is defined as (Natural England website – credited as a quote from the guidance):

> "*the tool that is used to help us to understand, and articulate, the character of the landscape. It helps us identify the features that give a locality its 'sense of place' and pinpoints what makes it different from neighbouring areas.*"

14.6 ESTABLISHING SENSITIVITY

29. The sensitivity of regional seascape units/seascape character types and landscape character types/areas is based on both the attributes of the receiving environment and the characteristics of the proposed development. Thus, the key characteristics of the seascape units/character types and/or landscape character types/areas take account of a range of different elements. The characteristics considered will include scale, openness, topography, the absence of, or presence of nature and patterns of

development, settlement, landcover and land uses in forming the character. The condition of the receiving seascape / landscape, i.e. the intactness of the existing character will also be relevant in determining sensitivity. The likelihood of effects on the seascape units/character types and landscape character types/areas can be judged based on the scale and layout of the proposal and how this relates to the characteristics of the receiving seascape / landscape. Thus large-scale seascapes / landscapes are likely to be less sensitive to large scale wind farm developments, whilst some small scale, enclosed seascapes / landscapes may be highly sensitive to all but very small scale proposals.

30. Wind turbine developments are unusual in their effects upon seascape / landscape character as they primarily involve the addition of elements rather than any alteration to, or removal of, existing features. The introduction of a wind farm into an existing seascape / landscape adds a new feature which strongly affects the "sense of place" in its near vicinity, but with distance, the existing characteristics reassert themselves. At its most basic level, the magnitude of effect can best be understood by considering how one might perceive a particular place post-construction; i.e. If the baseline perception is "I am in a field.", then this may change to: "I am in, or at, a wind farm" (High magnitude); "I am in a field near a wind farm" (Medium); "I am in a field and I can see a wind farm over there" (Low); or remain as "I am in a field." (Negligible).

31. With respect to landscape character, it is specifically noted within Landscape Character Assessment – Guidance for England and Scotland, CA/SNH, 2002 (para. 1.14) that:

> *"Landscape Character Assessment is not a tool designed to resist changes that may influence the landscape. Rather it is an aid to decision-making - a tool to help understand what the landscape is like today, how it came to be like that, and how it may change in the future."*

32. In para. 6.32 it describes the purpose of key characteristics in landscape assessment, as follows:

> *"Key characteristics are those combinations of elements which help give an area its distinct sense of place. They tend in many cases to be 'positive' characteristics but they may also, in some cases, be 'negative' features which nevertheless are important to the current character of the landscape. If the key characteristics which are identified were to change or be lost there would be significant consequences for the current character of the landscape. These would usually be negative but sometimes positive where some characteristics currently have a negative influence on the character (e.g. the effects of a busy road corridor). Key characteristics should therefore be the prime targets for monitoring change and for identifying landscape indicators."*

33. It follows from the above that in order to assess whether seascape / landscape character is significantly affected by a development, it should be determined how each of the key characteristics would be affected. The judgment of magnitude therefore reflects the degree to which the key characteristics and elements which form those characteristics will be altered by the proposals.

14.7 LANDSCAPE DESIGNATIONS AND VALUE

34. The sensitivity of designated landscapes is assessed based on their relative value. All landscapes are valued to a greater or lesser extent, and local people generally value open countryside regardless of whether or not it is designated. However, a despoiled or degraded landscape would generally be of Low value (and corresponding Low sensitivity in this respect). Undesignated, 'everyday' countryside would tend to be of Medium value. Nationally designated landscapes, which enjoy statutory protection (National Parks and Areas of Outstanding Natural Beauty), have a High value (and thus a High sensitivity in this respect). Locally designated landscapes would have High-Medium value and sensitivity, as would Heritage Coasts, which though nationally designated, are protected only via local plan policy.

35. In considering the effects on designated areas, a number of factors need to be considered. The effects on the component seascape / landscape character areas and the effects on views from within and towards the designated area need to be understood. These effects are then considered in light of the documented "special qualities" and purposes of the designation; and the proportion of the designated area that is affected, in order to arrive at a judgment of the magnitude of effects on the designated area.

36. Thus the judgment of the significance of effect on designated areas takes into account the value of the landscape (via the sensitivity rating) and the degree to which the purposes of designation are affected (via the magnitude).

14.8 VIEWPOINTS AND VISUAL RECEPTORS

37. A wide variety of visual receptors can reasonably be anticipated to be affected by a proposed wind farm development. The Guidelines for Landscape and Visual Impact Assessment (LI and IEA, 2002) indicate that the following factors affect the sensitivity of a viewpoint:

- The location and context of the viewpoint;
- The expectations and occupation or activity of the receptor; and
- The importance of the view.

38. These are all interlinked considerations, as the location, context and importance of the view will influence the likely activities and expectations of the receptor. The range of visual receptors will include pedestrians, and recreational users of the surrounding landscape such as walkers, cyclists and those otherwise engaged in the pursuit of leisure activities within the visual envelope of the site, local residents, motorists, those working outdoors and other workers. All categories of receptors can potentially be affected to a greater or lesser degree by a wind farm development. The four main visual receptor groups are considered in more detail below under the headings of residents, workers, the travelling public, and visitors.

14.8.1 RESIDENTS

39. Local residents tend to have a higher level of sensitivity to changes in their seascape, landscape and visual environment than those passing through. For

residents (High sensitivity), the most important views are those from their homes, although they will also be sensitive to other views such as those experienced when travelling to work or other local destinations. However, it is these latter views, from public areas nearby houses that are of relevance to the main body of the visual impact assessment.

14.8.2 RESIDENTIAL AMENITY

40. Views from private property are not a material consideration in determining planning applications unless the proposed change is sufficiently unpleasant or intrusive to cause unacceptable harm to residential amenity. For this reason, bearing in mind the distance from the coastline of offshore wind farm developments, the effects upon individual residential properties is not assessed.

14.8.3 THE TRAVELLING PUBLIC

41. This category of visual receptor group overlaps to a degree with the other categories in that it embraces local residents, workers and those who come to visit the area. This group of visual receptors will include the following:

- Motorists - For major trunk routes and motorways, the sensitivity of users will be Low, as they will be travelling at speed and will be primarily focused on achieving their destination. Users of other A-roads will have a Low to Medium sensitivity, unless these are particularly scenic or slow routes, in which case the sensitivity may be assessed as Medium. The users of local roads will have a Medium sensitivity;
- Cyclists and footpath users – These groups are addressed under the heading of visitors as they are generally less concerned with the object of reaching their destination than with the enjoyment of being outside and enjoying the landscape and available views. The sensitivity of these visitors is addressed below;
- Rail Passengers – the sensitivity of users will be Low as they will be travelling at a relatively fast speed and will be primarily focused on achieving their destination. In addition, the majority of passengers are unlikely to have clear or full views of the seascape for prolonged periods.
- Ferry Passengers – the sensitivity of these travellers will be Medium to Low in acknowledgment of their shifting focus of view which will be split between taking in views out to sea and being focused on activities on board ship.

42. Users of the roads and ferry routes identified above will vary in their level of sensitivity to the proposed development depending primarily upon the purpose for which they are travelling. For example, local residents and those on business will be more preoccupied with achieving their destination than in enjoying the scenery and the views available along their route. In contrast, day trippers and longer term visitors to the area are likely to be more concerned with the views they enjoy as they travel, but the speed and direction of travel and the fact that they are in a vehicle will reduce their sensitivity compared to, for example, walkers or recreational sailors.

43. Where applicable, the effects on the views from public paths in the vicinity of the Wind Farm are assessed. Particular reference is made to effects on National and Regional Trails and Cycle routes. Assessments are informed by viewpoints which are located on routes and by site visits and reference to aerial photography to ascertain the likely extent and nature of views available from the routes.

14.8.4 VISITORS

44. This category includes several visual receptor groups, each with different objectives and levels of sensitivity to any change in the fabric or character of the landscape and views arising from the proposed development. This group includes those who are mainly concerned with enjoyment of the outdoor environment but also those who may pursue indoor recreational pursuits and is anticipated to include the following (arranged in decreasing sensitivity):

- Those whose main preoccupation is the enjoyment of scenery (High sensitivity);
- Recreational walkers and equestrians (High sensitivity);
- Recreational Sailing or Boating (High to Medium sensitivity);
- Those visitors engaged in cultural pursuits (High-Medium sensitivity); and
- Cyclists (High-Medium sensitivity).

14.8.5 WORKERS

45. Workers are generally less sensitive to effects as they are focused on the tasks they are carrying out. Indoor workers generally have a Low sensitivity, and outdoor workers, such as fishermen and those offering outdoor pursuits are considered to have a Low to Medium sensitivity.

14.9 DESIGN

46. The degree of 'design fix' for offshore schemes coming forward for assessment can vary. Often there is the need to consider a number of alternative schemes and, through consultation, to reach agreement as to which of the scheme options constitutes the worst case scenario scheme in accordance with the 'Rochdale Envelope' principals. For some sites, the turbine layout may already be fixed, in which case input to the design may be limited to advising on mitigation or an indication that adjustments to particular turbine arrangements would be desirable. In other cases, it may be that no decisions have yet been made, and therefore a range of options by way of turbine numbers, sizes and layouts could be considered, and reviewed with the client and EIA team in order to arrive at an optimum proposal that best addresses the balance between potentially conflicting issues, which will include both beneficial and adverse effects. However, it will be appreciated that proposals located within the more challenging offshore environments cannot always afford a significant degree of fine tuning to turbine layout.

47. Beyond design changes to the arrangement of turbines, including the number and size of turbines, opportunities for significant mitigation measures are inevitably limited due largely to the nature of the proposed development and the character of the receiving marine environment. The scale of development and distance from the

coastline means that there are no real meaningful opportunities for incorporating other mitigation measures. However, within the evident constraints of the proposed development, mitigation measures are considered and, wherever possible, incorporated into the evolving scheme in order to best address potential effects.

48. The design, siting and mitigation of potential effects of the offshore substations and monitoring mast(s) will also be considered whilst the onshore grid connection routes are usually the subject of a separate application and thus do not form part of the assessment.

49. A description of the Project design is presented in Section 7: Project Description. Embedded mitigation measures in relation to SLVIA are outlined in Section 14.4.

14.10 ASSESSMENT

50. The assessment of effects includes desk and site based work, covering the following key activities:

- The preparation of ZTVs based on the finalised design for the development or the realistic worst case scenario where options are being presented within the application;
- The preparation of computer generated wireframes showing the proposed development from the agreed representative viewpoints;
- An assessment of the magnitude and significance of effects upon the seascape regional units, landscape character, landscape designations and the existing visual environment arising from the proposed development during construction, operational and decommissioning stages; and
- The production of photomontages from a selection of the agreed viewpoints showing the anticipated view following construction of the proposed wind farm development.

14.11 PREPARATION AND USE OF VISUALS

51. The preparation of the ZTVs, wireframes and photomontages complies with the SNH 'Visual Representation of Wind Farms Best Practice Guidance' (2006, albeit published in March 2007). The ZTVs and wireframes are used to inform the field study assessment work, providing additional detail and accuracy to observations made on site. In line with the SNH guidance, photomontages are produced in order to assist readers of the assessment in visualising the proposals, but should not be used alone in reaching judgements of effect.

52. The following points should be borne in mind in respect of the ZTV study:

- Areas shown as having no visibility will have no visibility;
- Areas shown as having potential visibility may have visibility of the development obscured by local features such as trees, hedgerows, embankments or buildings; and

- Since only the turbine hubs and blade tips have been modelled, this may be all that is visible – rather than the turbine tower. This is particularly true of areas near the edges of potential visibility.

53. A detailed description of the methods by which ZTVs, wireframes and photomontages are prepared is included below.

14.12 ASSESSMENT TERMINOLOGY AND JUDGEMENTS

54. A full glossary of terms is provided in Appendix 14.9. The key terms used within assessments are Sensitivity, Magnitude and Significance.

55. **Sensitivity** to change is assessed for both seascape/landscape receptors such as regional seascape units, seascape character types, designated areas and landscape character areas, and for visual receptors (people) at agreed representative viewpoints. It provides an indication of the likelihood of unacceptable effects on those receptors from a development of the type proposed.

56. A description of how sensitivity is assessed for each receptor type is included below. It is usually rated on the following scale:

- High – material effects are likely to arise from a development of this nature;
- Medium – material effects may arise from a development of this nature;
- Low - material effects are unlikely to arise from a development of this nature.

57. The sensitivity of seascape/landscape character areas is influenced by their characteristics and is frequently considered within documented seascape/landscape character assessments and capacity studies. Sensitivity of visual receptors is primarily a function of the expectations and occupation or activity of the receptor and the importance of the view. Sensitivity of designated landscapes is influenced by their value as indicated by their designation.

58. The Guide to Best Practice in Seascape Assessment (GSA) indicates that the sensitivity of regional seascape units to change is an important factor in assessing the significance of effects upon a particular seascape. For example, a seascape of a grand and generous scale with a limited array of constituent elements may be deemed to have a greater capacity to accommodate change and hence have a lower level of sensitivity to a particular type of development, than a more intimate seascape that might become dwarfed by large-scale development. On the other hand, the GSA also intimates, a more fragmented seascape may have an increased capacity to accommodate change (and hence a lower level of sensitivity) on account of the existence of promontories and/or high landform that assists in intermittently concealing and revealing views of a particular offshore development. There is thus a clear need to consider both the scale of the seascape and its complexity, and the degree to which views towards offshore development change or broadly remain static.

59. The sensitivity of seascape units, seascape character types, landscape character areas and landscape designations is influenced by factors including their location in relation to the proposed development.

60. The appraisal also identifies the degree of sensitivity to change in representative views from key receptors and more generally within the 'visual envelope' of the proposed development.

61. The terminology used within the SLVIA adheres to recognised assessment guidance and is specifically relevant to seascape, landscape and visual assessments. As such it may differ slightly from the terminology used elsewhere within the Environmental Statement.

62. Seascape and Landscape Sensitivity is identified according to the following criteria:

- High – Areas of seascape/landscape with particularly distinctive attributes and defining characteristics that are susceptible to relatively small changes;
- Medium – Areas of seascape/landscape with moderately distinctive attributes and defining characteristics that are reasonably tolerant of change; or
- Low – Areas of seascape/landscape with no particular distinctive attributes and defining characteristics and are thus potentially tolerant of noticeable change.

63. Viewpoint Sensitivity is identified according to the criteria below:

- High – Views with particularly distinctive visual attributes that are susceptible to relatively small changes and where the composition of visual receptor groups has an overall high level of sensitivity to change;
- Medium – Views comprising moderately valued visual attributes, which are reasonably tolerant of change and where the composition of visual receptor groups has an overall medium level of sensitivity to change; or
- Low – Views comprising relatively unimportant visual attributes that are potentially tolerant of substantial change and where the composition of visual receptor groups has an overall low level of sensitivity to change;

14.12.1 SENSITIVITY OF REPRESENTATIVE VISUAL RECEPTORS

64. This is primarily a function of the expectations and occupation or activity of the receptor and the importance of the view:

- High - Viewers which are highly attuned to their surroundings, with proprietary interest and prolonged viewing opportunities;
- Medium - Viewers with a moderate awareness of their surroundings; or
- Low - Viewers with a passing awareness of their surroundings

65. **Magnitude** of effect is assessed for all seascape, landscape and visual receptors and identifies the degree of change. It is rated on the following scale:

- High – Total or major alteration to key elements, features or characteristics, such that post development the baseline situation will be fundamentally changed;
- Medium - Partial alteration to key elements, features or characteristics, such that post development the baseline situation will be noticeably changed;
- Low – Minor alteration to key elements, features or characteristics, such that post development the baseline situation will be largely unchanged despite discernable differences;

- Negligible – Very minor alteration to key elements, features or characteristics, such that post development the baseline situation will be fundamentally unchanged with barely perceptible differences; or
- None – Where there is clearly no effect.

66. Whilst the duration of effects is also a consideration, the normal lifespan of a wind farm, though temporary, is a period of up to 25 years. This is a reasonable length of time so the limited time span is not taken into account in determining magnitude. The reversibility of effects is however, a material consideration and will be referred to within the assessment.

67. **Significance** of effect indicates the importance of the effect, taking into account the sensitivity of the receptor and the magnitude of the effect.

68. Significant effects (in terms of the EIA regulations) are those that are Major-Moderate or Major. If an effect is not significant, it should not be considered as material to the decision making process. It should also be noted that whilst an effect may be significant, that does not necessarily mean that such an impact would be unacceptable.

69. Where intermediate ratings are given, e.g. "Moderate-Minor", this indicates an effect that is both less than Moderate and more than Minor, rather than one which varies across the range. In such cases, the higher rating will always be given first; this does not mean that the impact is closer to that higher rating, but is done to facilitate the identification of the more significant effects within tables.

70. The process of forming a judgment of significance of effect is based upon the assessments of magnitude of effects and sensitivity of the receptor to come to a professional judgment of how important this effect is in terms of making a decision about whether consent should be granted. This judgment is illustrated by the table below:

Table 14.A

Magnitude	**Sensitivity**		
	Low	**Medium**	**High**
High	Moderate	Major-Moderate	Major
Medium	Moderate-Minor	Moderate	Major-Moderate
Low	Minor	Moderate-Minor	Moderate
Negligible	Negligible	Negligible	Negligible

71. Key criteria used in determining the extent of an effect include: the magnitude of the change, the spatial extent of the change, the duration of the change, the degree to which the change is reversible and, related to prevailing weather conditions, the percentage incidence of the change.

14.12.2 LIMITATIONS

72. The nature (or valency) of the effect (Positive, Neutral or Adverse) is not identified. In the case of wind farms, there are difficulties in indicating whether seascape/landscape and visual effects will be positive, adverse or neutral. Much depends upon the attitudes and predispositions of the individual. As has been shown in a number of opinion surveys the attitudes of the general public vary widely from those who think that wind farms blight the seascape/landscape to others who feel that they are a beautiful or positive addition, in some instances regardless of the natural beauty/value of the seascape/landscape in question. In general terms there appears to be a majority view that is positive towards wind energy generation and its appearance in the seascape/landscape and this is particularly so once a wind farm is built in a particular location. In examining visual effects, it is not realistic to ignore public opinion (nor the likelihood that professionally qualified landscape architects may have differing positions) when discussing the effect upon views perceived by the public and positive/adverse judgments are therefore not made within assessments.

73. Making positive/adverse judgments for effects of wind farms on landscape character based on current guidance would be of questionable value, particularly if using the conventional interpretation (which is implicit in many local plan policies) that any 'out of character' development should be considered adverse. This would effectively make all wind farm developments result in adverse effects on seascape/landscape character except if they were proposed near to another wind farm. For this reason, such judgments are not included in assessments.

14.13 CUMULATIVE ASSESSMENT

74. The purpose of the cumulative effect assessment is to consider the potential effects upon the seascape and visual environments in relation to the existing wind farm developments and other known consented and proposed wind farm developments in the area. It raises questions over thresholds of acceptable change (spatial and temporal) and the landscape/seascape's capacity to accept change.

75. The Guidelines for Landscape and Visual Effect Assessment (2nd edition, 2002) advises that:

> *'cumulative landscape and visual effects result from additional changes to the landscape or visual amenity caused by the proposed development in conjunction with other developments (associated with or separate to it), or actions that occurred in the past, present or are likely to occur in the foreseeable future.'*

76. In this case, at the project outset a Cumulative Impact Assessment Discussion Document (CIADD) (MFOWDG, 2011) was prepared by others and submitted to the consultees for comment. This is detailed within the planning appraisal section of this ES. Subsequent to this, and informed by the CIADD, early consultation on the scope of the SLVIA was undertaken with Highland Council and SNH. A search area around the proposed offshore wind farm site was agreed with both consultees. Within the agreed radius, all relevant local planning authorities and appropriate statutory consultees were contacted to identify all known existing and consented

wind turbine developments, both on and offshore, as well as applications yet to be determined. For each of these schemes agreement was reached with the Local Planning Authority, SNH and Marine Scotland as to whether they should be included in the assessment. Initial cumulative ZTVs, showing the likely areas where schemes may be visible were used to inform these discussions.

77. Schemes which are in scoping or recent refusals (which may yet be appealed) were also noted, but are not included within the assessment except where they become active applications before the SLVIA was completed.

78. The cumulative assessment does not address the magnitude or significance of the effects arising from the individual developments themselves included within the cumulative assessment, but looks at the seascape, landscape and visual effects arising from the combination of turbines at the proposed offshore wind farm with one or more other wind farm developments within the parameters identified.

79. The cumulative assessment examines the same groups of seascape/landscape and visual receptors as the assessment for the main scheme, Where appropriate the assessment is informed by cumulative ZTVs, showing the extent of visual effects of the schemes in different colours to illustrate where visibility of more than one development is likely to arise. Cumulative wireframes are prepared which show each of the developments in different colours so that they are each readily identifiable. Cumulative photomontages are also prepared.

80. In addition, the effects on users of routes through the area, from which wind farms may be sequentially visible as one passes through the landscape are also considered. This assessment is based on the desk study of ZTVs and aerial photography, and site visits to travel along the routes being assessed.

81. The way in which the assessment is described and presented is varied depending on the number and nature of scenarios which may arise. This variation is needed in order to convey to the reader the key points of each assessment. For example, the three different cumulative combinations that may arise for an assessment in which there are two existing undetermined applications can each be assessed individually. A situation in which there are 10 applications cannot reasonably be assessed in this way and the developments may need to be grouped for analysis.

14.14 CUMULATIVE SEASCAPE AND LANDSCAPE EFFECTS

82. As set out above in the methodology for landscape and seascape effects, the magnitude and significance of cumulative effects on the identified landscape designations, landscape features and seascape character units/types are a function of the baseline sensitivity of each receptor, the number and scale of the proposed wind farms in that area and the overall size and shape of the receptor/character area. Cumulative seascape and landscape effects will be assessed for each receptor/character unit/type where they are affected by more than one of the proposed wind farms and other considered infrastructure.

14.15 CUMULATIVE VISUAL EFFECTS

83. There are two types of cumulative effects on visual amenity, namely effects arising from combined and sequential views. In accordance with the Scottish Natural Heritage publication Cumulative Effect of Wind Farms version 2 (April 2005) these comprise:

- Combined views which 'occur where the observer is able to see two or more developments from one viewpoint. Combined visibility may either be in combination (where several wind farms are within the observer's arc of vision at the same time) or in succession (where the observer has to turn to see the various wind farms)'; and
- Sequential views which 'occur when the observer has to move to another viewpoint to see different developments.'

84. Cumulative visual effects will vary in degree depending on:

- the number and sensitivity of visual receptors;
- the duration, frequency and nature of views; and
- the relative effect of each individual wind farm on views.

14.16 DISTANCES

85. Where distances are given in the assessment, these are approximate distances between the nearest turbine and the nearest part of the receptor in question, unless explicitly stated otherwise.

14.17 ZTV STUDIES

86. ZTV studies are prepared using the ESRI ArcGIS Viewshed routine. This creates a raster image that indicates the visibility (or not) of the points modelled. Each turbine is analysed at hub and blade tip height. Two studies are carried out, with the first using a topographic model alone, in accordance with SNH guidance. A second study is also prepared including settlements (generally mapped in at an assumed average of 7.5 m above ground level) and woodlands (generally mapped in at an assumed average of 15 m high above ground level). If significant deviations from these assumed heights are noted during site visits, for example young or felled areas of woodland, or significant areas of single storey development, the features concerned will be adjusted within the model. The areas of settlement and woodlands are based on the Ordnance Survey Vectormap District alpha version dataset (this equates to urban areas on a 1:25,000 Ordnance Survey plan and woodlands from the Ordnance Survey streetview 1:10,000 product).

87. The visibility is modelled taking into account both the curvature of the earth and light refraction, and an observer height of 2 m, in accordance with SNH guidance. The ZTV also begins at 1 m from the observation feature (for example the wind turbine) and will work outwards in a grid of the set resolution (generally 12.4 sq. m for Ordnance Survey Opendata Landform Panorama) until it reaches the end of the terrain map for the Project.

88. For all plan production LDA Design will produce ZTVs that have a base and overlay of the 1:50,000 Ordnance Survey Raster mapping. For site and assessment purposes the ZTVs will be reproduced at a suitable recommended scale on an A1 template to encompass the study area. For printing purposes all ZTV figures will be produced at A3 size.

14.17.1 GROUND MODEL ACCURACY

89. Depending on the project and level of detail required, different height datasets may be used. Ordnance Survey Landform Profile (roughly linked to quality of 1:10,000 mapping) and Ordnance Survey Opendata Landform Panorama (roughly linked to the quality of 1:50,000 mapping) are supplied as raster dataset. Below is listed the different data products and their specifications:

Table 14B

Product	Distance Between Points	Vertical Error	Horizontal Error
LiDAR	50cm – 2m	up to +/- 10cm	up to +/- 1cm
Derived Aerial Photography Heights	1m – 5m	up to +/- 25cm	up to +/-15cm
Ordnance Survey Landform Profile	10m	+/- 1.8m	+/- 1m
Ordnance Survey Opendata Landform Panorama	49.6m	+/- 5m	+/- 3m

90. For most purposes, the Ordnance Survey Opendata Landform Panorama data will be used, but on certain occasions more detailed analysis of areas close to the site may be required, in which case, ZTVs based on Ordnance Survey Landform Profile data with areas of vegetation and building footprints taken from the Ordnance Survey 1:10,000 mapping may be used. Similarly, where actual heights from obstructions and hedgerows might need to be assessed more detailed surface mapping products such as Derived Aerial Photography Heights (from Infoterra or Bluesky) or LiDAR can be used.

14.18 WIREFRAMES

91. Wireframes are produced in 6 key stages:

- Photography is undertaken by a professional photographer using a digital SLR camera and 50mm equivalent lens. A tripod (usually 1.6 m high) is used to take overlapping (50%) landscape format photographs which are joined together using Adobe Photoshop software to create a single panoramic image for each viewpoint. These are then saved at a fixed height and resolution to enable correct sizing when reproduced in the final images. The photographer also notes the GPS location of the viewpoint and takes bearings to visible landmarks whilst at the viewpoint;
- Creation of a ground model and 3D Mesh to illustrate that model - This is created using OS landform panorama point data and KEY Terrafirma ground modelling software;

- The addition of the turbine wireframes to the 3D model using AutoCAD- The turbines are correctly proportioned to match the nacelle height and blade lengths proposed for the development. They are also modelled to closely resemble the turbines proposed. The turbines are then inserted into the 3D model at the proposed locations, facing into the prevailing wind direction;
- Wireframe generation – The viewpoints are added within the 3D AutoCAD model with each observer point being inserted at 2 m above the modelled ground plane. The location of the landmarks identified by the photographer may also be included in the model. The view from the viewpoint is then generated using the AutoCAD camera function, creating a number of single frame images, which also include bearing markers. For cumulative wireframes, each wind farm will be shown in a different colour. As with the photographs, these single frame images are joined together using Adobe Photoshop software to create a single panoramic image for each viewpoint. These are then saved at a fixed height and resolution to ensure that they are the same size as the photographs;
- Wireframe matching – The wireframes are matched to the photographs using a combination of the visible topography; bearings taken on site and the bearing markers; and the landmarks which have been included in the 3D model; and
- Reproduction – the wireframe images are presented on sheets which are 297 mm high and the length needed to show the view. The photographs are shown at 140 mm high (a viewing distance of 300 mm) with the wireframes below. Data required by the SNH guidance and a location plan is also included on each sheet. Where very wide panoramas (more than 180 degrees) are required to show all of the schemes within a cumulative study, the view will be split across two sheets.

14.19 PHOTOMONTAGES

92. Photomontages are produced in 4 key stages:

- Wireframe preparation, up to stage 5 above;
- 3D Studio Max is used to produce a rendered 3D view of the turbines from the viewpoint. The rendering uses a pale grey colour (similar to that used for many turbines) and lighting conditions according to the time of day for the viewpoint photograph. These images are then saved at a fixed height and resolution to ensure that they are the same size as the photographs;
- The rendered turbines are then added to the photographs in the positions identified by the wireframe (using Adobe Photoshop to overlay the photograph with both the wireframe and rendered turbines to ensure accuracy). The images are then layered to ensure that the turbines appear in front of and behind the correct elements visible within the photograph; and
- Reproduction – the photomontage images are presented on sheets which are 297 mm high and the length needed to show the view which is usually cropped to 90 degrees of the wireframe view, focussed on the wind farm location. The photographs are shown at 200 mm high (a viewing distance of 435 mm). Data required by the SNH guidance and a location plan is also included on each

sheet. Where very wide panoramas (more than 135 degrees) are required to show all of the schemes within a cumulative study, the view will be split across two or more sheets.

14.20 NIGHT TIME LIGHTING PHOTOMONTAGE METHODOLOGY

93. The night-time views were rendered using colour imaging software, to give an impression of the 'brightness', colour relating to light on surfaces, and texture of surfaces at night. Two types of light source have been used when rendering the night-time views:

- Point light sources (navigation lights on the turbine nacelles and lighting on the substations taken from photographs of the existing offshore wind farm at Thanet, Kent and the existing oil rigs in the existing panaoramas); and
- Directional lighting focusing on the turbine unique identifiers lower sections of the turbine masts (taken from photographs of the existing offshore wind farm at Thanet, Kent).

94. Sample photographs were taken of Thanet offshore wind farm using a digital camera with a 50 mm equivalent lens using similar exposure settings to those used to take the original panoramas for viewpoints 4 and 9. To calculate the effect of the proposed lighting scheme these photographs were resized to the same proportion as one frame of the existing panorama, and then resized again using a scale factor based on distance to the proposals. Thanet offshore wind farm is 12 km offshore from the point the sample photographs were taken, so the scale factor applied to the sample photograph for viewpoint 4 was 66.66% (as the proposed site is approximately 18km from the viewpoint location: 18/12). The scale factor applied for viewpoint 9 was 47% (as the proposed site is approximately 25.5 km from the viewpoint location: 25.5/12).

95. The model of the proposals was then rendered with the navigation lights shown in the correct locations, this render was then fitted to the night time photograph using the wireframes created for the day time photomontage as a reference.

96. Finally the proposals were rendered in a photo editing package to illustrate the proposals appearance based on the scaled sample photograph, existing lighting in the panoramas (oil rig platforms) and the render from the 3D model to give an accurate representation of the proposals.

14.21 SEQUENTIAL ROAD ANALYSIS GRAPHS

97. The graphs presented in Appendix 14.9 were developed using data obtained from the production of the ZTVs. The data was correlated in Excel to give a graph output for each road based on point data at mile intervals.

98. Each graph is necessarily at a different scale that relates to the distance to the various wind farms within the vicinity of each particular route. Miles are indicated along the horizontal axis on the graphs, rather than kilometres, as the majority of people more readily relate to these when travelling. However, selected kilometre distances have also been shown for ease of reference.

99. It should be noted that the graphs only illustrate point data at discrete mile intervals. They do not record continuous visibility along the routes and as such there remains the possibility that further views of the Beatrice Offshore Wind Farm and other wind farms may also, although not necessarily, be available between these mile intervals. In these instances where the graph does not show a wind farm as visible, there is most likely no visibility, or the visibility could be intermittent, or, if continuous, it will be for less than a mile. Where visibility is shown, the graphs present a worst case scenario of theoretical visibility as represented by the ZTVs. In reality this visibility will be limited due to distance, intervening local vegetation, road cuttings and embankments which would not have been modelled in the ZTV, and the orientation of the particular wind farm in relation to the direction of travel.

THIS PAGE IS INTENTIONALLY BLANK

APPENDIX 14.3: SEASCAPE BASELINE

14.1 NATIONAL SEASCAPE UNITS

1. The SNH commissioned report, 'An Assessment of the Sensitivity and capacity of the Scottish seascape in relation to Windfarms' (Scott et al, 2005), identifies a series of seascape units to assist the strategic sub regional planning for offshore wind energy developments.

2. There is one main seascape unit, 'Area 7: East Caithness and Sutherland' within the study area. The key characteristics of this unit are summarised below.

14.1.1 AREA 7: EAST CAITHNESS AND SUTHERLAND

3. Seascape character types within this area comprises largely of 'Mainland Rocky Coastline with Open Sea Views' with a short section of 'Deposition Coastline with Open Views' and 'Narrow Coastal Shelf'. There is a small area of 'Remote High Cliffs' at the north eastern tip of Caithness.

4. The key characteristics of this national seascape unit are:

- 'predominantly low rocky coastline with few significant indentations or headlands, low cliffs are present in some areas;
- narrow coastal shelf a feature and this is tightly constrained by inland hills which direct views over sea and along strongly linear edge, usually farmed in strips;
- communications located within coastal shelf;
- tight knit villages and some crofting on coastal edge or located at base of cliffs – many of these have a strong traditional character; and
- occasional sandy bays further north in Caithness backed by low lying and more extensive farmland.'

5. The SNH document identifies that the openness of sea in views gives a huge scale which turbines could relate well to. It also states that views are largely focused up and down the coast and out to sea rather than inland. However, the study discusses that although generally not a complex landform, the presence of turbines could conflict with small scale traditional settlements along the coastline and the narrow coastal shelf if located too close to the coast. The Beatrice oil platform and Beatrice Demonstrator turbines are located within this seascape unit.

6. In conclusion the study gives the 'East Caithness and Sutherland' national seascape unit a Low – Medium sensitivity to the type of development proposed.

14.2 REGIONAL SEASCAPE UNITS (RSU) (GSA GUIDANCE)

14.2.1 REMOTE HIGH CLIFFS – DUNCANSBY HEAD TO SKIRZA HEAD RSU

7. This seascape unit also ties in with an area of the landscape character 'High Cliffs and Sheltered Bays' and the Duncansby Head Area of Great Landscape Value (AGLV). The Remote High Cliffs area lies approximately 33 km from the Wind Farm at its closest point, and extends north from Skirza Head. The landward part of this area is designated as an Area of Great Landscape Value (AGLV) and the

immediate seascape is also designated as a Special Area of Protection (SPA) which although for bird protection and not a landscape designation it helps to indicate the character of the area.

8. The coastline is defined by the intricate high cliffs which include dramatic elements such as the Stacks of Duncansby and Thirle Door as well as many other inlets and caves. Apart from a defined coastal footpath from Duncansby Head to the Hill of Crogodale most of the cliff line is not readily accessible except by boat. Views from the immediate coastline are most likely to be from the northern extents where the focus is primarily on Stroma and the Orkney Isles in the north and to the cliff features and headlands in the south. The open sea extends to the horizon in the east.

9. The landward extent of this unit varies due to topography and settlement. In the northern extents, the land descends to 15 m AOD before quickly rising to 64 m AOD at Duncansby Head creating a natural viewing platform where the Lighthouse is positioned. At this headland views can be seen across the Pentland Firth and around to the Moray Firth. To the west, the collection of dispersed houses forming John O'Groats narrows the landward extent of this seascape unit to 1-2 km which opens out to a wide band of sweeping moorland to the south. Within this area, apart from the main A99 road, there is little settlement and local high points at Giar Hill and Warth Hill, approximately 4 km inland, prevent views further west. The land falls in the south towards Freswick Bay and Skirza Head indicating the end of the seascape unit. Although the focus of views from this unit is mostly offshore, views inland may include the nearby consented Stroupster Wind Farm and strong rectangular patterns of coniferous plantations.

10. The 'Remote High Cliffs – Duncansby Head to Skirza Head' RSU is judged to have a High sensitivity to the type of development proposed.

14.2.2 ROCKY COASTLINE – SKIRZA HEAD TO KEISS RSU

11. This regional seascape unit extends approximately 8 km north from Sinclair's Bay to Skirza Head, 28 km at its closet point to the Wind Farm.

12. The coastline consists of an intricate rocky edge, differentiated from the north by the lower topography and farmland which extends to the cliff line all along its length. At the north of this seascape unit, within the exposed coastline there is a small area of deposition coastline and dunes at Freswick Bay. The coastline has a generally convex shape before curving to create Sinclair's Bay. There are many historic features on the cliffs such as the remains of Freswick Castle, Bucholly Castle and Keiss Castle. Keiss has the only harbour within this stretch which is a small sheltered place with its opening orientated towards the south east.

13. The landward element can be broadly defined by the extent of the field patterns which extend 2 to 3 km inland. Beyond this, open moorland rises gradually preventing any intervisibility with the sea beyond approximately 3 km. The main A99 road lies approximately 0.5 km back from the coastline for most of this unit with individual settlements in large plots of land dispersed either side of its length. Keiss village is the only exception to this where there is a more formal layout of

houses with historic houses aligning the road to the harbour. The gently undulating nature of the land here gives an exposed character with extensive views out to the sea and up and down the coastline. Inland views will be of moorland and coniferous plantations which may include the consented Stroupster Wind Farm. Views to the south along the coast are less remote than to the north and look across Sinclair's Bay and to the settlement, agricultural land, airport and local industry around Wick and beyond.

14. The 'Rocky Coastline – Skirza Head to Keiss' RSU is judged to have a Medium sensitivity to the type of development proposed.

14.2.3 DEPOSITION COASTLINE – SINCLAIR'S BAY RSU

15. Sinclair's Bay is a large, well-defined sandy beach between mostly rocky cliff coastlines. The RSU landward extents lie just beyond 20 km at its closest point from the proposed development and extend for approximately 5 km. The Bay is an easterly facing gentle curve, enclosed by the rocky headlands at Tang Head to the north, and Noss Head to the south.

16. The beach is backed by dunes which have gradually been reclaimed as largely farmland and also a golf course to the south. The River of Wester flowing from Loch of Wester enters the sea through the dunes at the centre of Sinclair's Bay. Views from the beach are framed by the headlands, more so to the south as Noss Head extends out at right angles.

17. The land extents of the unit cover a considerable distance inland as the low topography around the Lochs and Mosses allow intervisibility with the sea. However, this is intermittent as the sand dunes behind the bay, large coniferous plantations and settlement patterns prevent extensive views.

18. The 'Deposition Coastline – Sinclair's Bay' RSU is judged to have a Medium sensitivity to the type of development proposed.

14.2.4 ROCKY COASTLINE – NOSS HEAD TO BERRIEDALE RSU

19. This regional seascape unit stretches approximately 45 km along the coast from Noss Head to Berriedale and is primarily defined by the rocky coastline with a clear pattern of human activity to the edge, including Wick. The Wind Farm will lie within the outer sea extents of this unit, 13.5 km at its closest point to land.

20. The coastline continues from the north as an intricate cliff line and is particularly rocky between Noss Head and Wick in comparison to the south of this unit. The land has been cultivated to the edge of the cliffs in most places along this stretch, which is now predominantly grazing in medium to small liner fields demarked by post and wire fencing or remains of old stone walls.

21. The landward extents are consistent with the 'Small Farms and Crofts' landscape character area, which extends up to 10 km inland from the coastline between the higher sweeping moorland. It is the most settled part of the study area with the town of Wick, smaller villages at Thrumster, Lybster, Latheron, and Dunbeath and many houses and farms dispersed between them along the coast. The main transport corridors of the A9 and A99 follow the coastline with open views across

the sea and up and down the coast. Existing turbines at Buolfruich are visible features within the area and the recently consented Burn of Whilk will add to this characteristic. Offshore, the existing Beatrice demonstrator turbines and oil rigs are also features.

22. The 'Rocky Coastline – Noss Head to Berriedale' RSU is judged to have a Medium – Low sensitivity to the type of development proposed.

14.2.5 NARROW COASTAL SHELF – BERRIEDALE TO HELMSDALE RSU

23. The extension of the mountainous region close to the coast distinguishes this part of the coastline from the seascape unit to the north is. It extends within the Study Area for an approximate 10 km stretch between the villages of Berriedale and Helmsdale. It lies at 30 km at its closest point on land to the proposed Wind Farm.

24. The landwards extents of the seascape unit area narrow due to the elevated moorland slopes which gradually ascend from the rocky coastline to the lone mountains. Although there are views to the sea from the top of these promontories, the extent of the seascape unit is really defined in a much narrower area along the coast. In comparison to the north of Berriedale, there are few houses or farms within this stretch of coastline due to the topography. The main A9 road winds its way through the undulating topography and forestry covered slopes only giving glimpses or framed views of the sea. Oil rigs and the existing Beatrice Demonstrator turbines can be seen in available sea views.

25. The land sharply falls towards the coast with near vertical embankments before exposed rocks. The landform is less intricate than to the north with a slightly more linear appearance. There are no obvious access points to the sea along this stretch of coast and only on the outskirts of Helmsdale and Berriedale is the land cultivated to the coastline.

26. The 'Narrow Coastal Shelf – Berriedale to Helmsdale' RSU is judged to have a Medium – Low sensitivity to the type of change proposed.

14.3 REGIONAL SEASCAPE CHARACTER TYPES (SCT)

27. As undertaking a detailed seascape assessment is a separate project in itself, and there is not a character assessment existing for the Moray Firth seascape, this study used the emerging methodology to identify seascape character areas at a level and scale appropriate for an offshore wind farm. The process to identify character types within the 40 km study area required looking at the wider Moray Firth area. This resulted in six seascape character areas in the Moray Firth, three of which lie predominantly within the 40 km study area. These cover areas of the sea which would not necessarily be assessed using the existing GSA seascape methodology discussed above.

28. The seascape character types within the 40 km study area are discussed below and all six areas are illustrated on Figure 14.6. They are defined by the marine, coastal and coastal hinterland components as well as the key elements that combine to make the overall character distinctive from adjoining seascapes. The visual characteristics are also defined. The scale of the seascape character baseline below

gives an overview of the coastal and intertidal areas, but to avoid repetition the coastal character is discussed in more detail within the identified seascape units to the GSA guidance above and are also covered to some degree by the landscape character assessment.

14.3.1 COASTAL WATERS

29. This seascape character type occurs along the majority of the East Caithness coast, west of the Wind Farm Site, and extends offshore from Golspie to Duncansby Head. The key characteristics of this seascape character type are listed below:

- Mainly rocky coastline with isolated sandy beaches, the largest of which is Sinclair's Bay. Rock pinnacles, known as Duncansby Stacks, lie to the immediate south of Duncansby Head. Narrow coastal shelf in some areas;
- Water depth up to 25 m closest to shore, increasing to 75 m at varying distances beyond approximately 2 km from the coast;
- Sedimentary geology generally exposed rock and rocky with areas of sand deposition within bays. The remaining areas comprise slightly gravelly sand, gravelly sand and sandy gravel; sand and muddy sandy;
- Internationally and nationally protected areas of marine and coastal biodiversity. Includes East Caithness Cliffs and North Caithness Cliffs Special Protection Areas as well as the Duncansby Head Site of Special Scientific Interest. The area also contains part of the Moray Firth Special Area of Conservation;
- Many historic and geological coastal features along the coastline;
- Includes important fishing and spawning areas;
- Recreational sailing;
- Low level of shipping parallel to coast;
- Strong maritime connection with settlements and agricultural land use patterns, with small historic villages and crofts located at base of cliffs or on coastal edge;
- Open expansive views of the sea from the coast, with oil platforms and existing offshore turbines visible. Exposed feel due to straight coastline and sparse settlement on the coast;
- Some illumination at night with Beatrice Oil Platform flarestack and existing turbines visible alongside lighthouses and distant views of lights on the Moray Coast;
- Remote coastal area which increases in remoteness to the north; and
- Strong relationship with large harbour and settlement at Wick.

30. Taking account of these characteristics the Coastal Waters SCT is judged to have a Medium sensitivity to the type of change proposed.

14.3.2 INSHORE WATERS

31. The Wind Farm is located within this seascape character type, which occupies the central region of the Moray Firth. The key characteristics of this seascape character type are listed below:

- Large sand bank creates an isolated patch of shallow waters; Shallow area of up to 25-50 m depth surrounded by deeper water 50-75 m in depth;

- Sedimentary geology largely sand and slightly gravelly sand, with areas of muddy sand, sandy gravel and gravelly sand;
- Oil platforms and offshore wind turbines;
- Recreational sailing routes between north and east coasts pass through this area;
- Relatively little shipping activity within this area;
- Oil and gas pipelines; and
- Contains important fishing and spawning areas.

32. Taking account of these characteristics the Inshore Waters SCT is judged to have a Low sensitivity to the type of change proposed.

14.3.3 DEEP SEA FISHING AND SHIPPING

33. This seascape character type arises east of the Wind Farm Site and occupies an area offshore that lies parallel to Rosehearty to the south and Duncansby Head to the north. The key characteristics of this seascape character type are listed below:

- Physical and navigational link to the firth and coastal waters of Orkney Isles;
- Water depth of 50-100 m across the majority of this area;
- Sedimentary geology is a combination of sand, slightly gravelly sand, gravelly sand, sandy gravel and muddy sand;
- Major shipping route with high level of activity, including passenger ferries;
- Oil and gas pipelines; and
- Contains important spawning areas.

34. Taking account of these characteristics the Deep Sea Fishing and Shipping SCT is judged to have a Low sensitivity to the type of change proposed.

APPENDIX 14.4: LANDSCAPE BASELINE & ASSESSMENT

14.1 LANDSCAPE CHARACTER TYPES WITHIN THE STUDY AREA

1. The Caithness and Sunderland LCA identifies 12 landscape character types within the 40 km Study Area. These comprise: Sweeping Moorland; Flat Peatland; Moorland Slopes and Hills; Lone Mountains; High Cliffs and Sheltered Bays; Long Beaches, Dunes and Links; Strath; Coastal Shelf; Harbour; Open, Intensive Farmland; Mixed Agriculture and Settlement; Small Farms and Crofts. The key characteristics of these landscape character types are discussed below.

14.1.1 SWEEPING MOORLAND

2. This landscape type is characterised by wide open spaces of largely flat, gently undulating landform. There is a high degree of visibility within this landscape and it is largely uninhabited and can possess a strong sense of remoteness. The visual simplicity of this landscape tends to draw attention to foreground details within views and experiential characteristics such as weather and light conditions.

3. Coniferous plantations can be a dominant feature in some areas. This landscape often has a historical character with ruined buildings and field boundaries invoking past history. Roads and power lines, and existing wind farms that lie within these areas tend to be highly visible. Settlements occur on the edges of this landscape, typically abutting strath or the sea.

4. Close to the coast, this landscape may exist as a raised shelf or plateau; however, the coastline is often not visible from inland areas.

5. The Sweeping Moorland LCT is attributed a Medium – Low sensitivity to the type of change proposed.

14.1.2 FLAT PEATLAND

6. This landscape character type shares the same key characteristics of sweeping moorland, of which it is a subtype, with a stronger emphasis on its features due to a flatter, more open landform.

7. This landscape has a flat landform with immense openness that creates a very high level of exposure and panoramic visibility. The sky is a dominant feature and the weather, with its frequently shifting changes in light and colour, is a notable characteristic of this landscape. Strong winds can also affect the experience in these areas. This landscape has a very remote character – it is largely uninhabited and access by vehicle is limited. Few visual foci exist within this landscape except for wind farms which are now a characteristic and views of distant hills can be seen from most areas.

8. Some areas of this character area lie within elevated plateaux which can increase the sense of exposure and level of visibility. This subtype is usually surrounding by sweeping moorland, however some parts are 'clothed' by extensive coniferous plantation which can create a sense of enclosure at close proximity.

9. The Flat Peatland LCT is attributed a Medium – Low sensitivity to the type of development proposed.

14.1.3 MOORLAND SLOPES AND HILLS

10. This landscape character type is formed by sloping open moorland and often arises between low lying areas and mountains. Whilst the variable slope of the landform can create a degree of enclosure, this landscape is largely open. However, the convex shape of the slopes tends to limit distant visibility and the bases of adjacent hilltops are largely unseen. Fragments of broadleaf woodland, typically with a dense wind-pruned form are also characteristic. Coniferous plantation is sometimes a key feature of this landscape, located close to access routes and at the foot of slopes. Views of wind turbines have also become a relatively recent characteristic. Towns, estates, farms and crofts, and infrastructure routes tend to follow the coast and strath at the edge of these areas.

11. The Moorland Slopes and Hills often lie adjacent to high cliffs and sheltered bays along the coast. Although the convex shape of the landform can limit visibility towards the sea from adjacent inland areas; distant views of the sea and its bays can be gained further along the coastline.

12. The Moorland Hills and Slopes LCT is attributed a Medium sensitivity to the type of development proposed.

14.1.4 LONE MOUNTAINS

13. This landscape character type consists of individual mountains located in isolation within large areas of open moorland. They are dominant focal points and landmarks within the landscape character area whose influence extends far away into other landscape character types.

14. Ribbons of broadleaf scrub woodland can be found along water courses located along mountain slopes. This landscape character type is largely uninhabited and the slopes are typically grazed by deer. Estate houses and farm buildings sometimes occur at the base of the foot slopes. Coniferous plantation can also be found at the edge of the foot slopes.

15. The character of this landscape varies to a great degree in relation to the weather and the season. The mountains typically appear more two dimensional on clear, bright days, whilst visibility and focal dominance is highly reduced during low cloud. The mountains are extremely exposed with extensive views in clear conditions of the surrounding landscape and all its natural and man-made elements. The mountains have a strong focal dominance and their presence strongly affects the surrounding landscape character types.

16. The Lone Mountains LCT is attributed a High sensitivity to the type of development proposed.

14.1.5 HIGH CLIFFS AND SHELTERED BAYS

17. This landscape character type comprises long narrow strips of land and sea along sections of the north and north-eastern coast of Caithness and Sutherland. Whilst isolated cliffs and bays occur outside these areas, they are the dominant characteristic of this landscape with the repetitive pattern of long stretches of high cliffs intersected by sheltered bays and glens along the length of the coastline.

18. The strong linear edge of the cliffs and equal emphasis on land and sea are key features of this landscape. Views from the cliff tops tend to be directed along the coast and out to sea, particularly where there are offshore foci such as islands, oil platforms or boats. Views from within the bays are typically more contained.

19. This landscape is extremely exposed and its character is strongly influenced by weather patterns and seasonal effects. The character of this landscape is dramatic and dynamic in relation to both the physical landscape and the experience of being within it.

20. Prominent buildings are occasionally located on cliffs where they often form distinctive landmarks. Structures on top of the cliffs also tend to emphasis the height and verticality of the cliffs in comparison. The cliffs are very high and almost vertical, and they can have very deep sheltered waters that can form harbours. Whilst small harbours that sit close within the cliff bases are a feature of this landscape, larger harbours generally form a distinct landscape character type of their own and are discussed as a separate character type.

21. The main road that runs parallel along the Caithness and Sutherland coastline is a feature of this landscape, with a number of settlements at intervals along its length. The coastal road has views to the sea however the height of the cliffs can limit visibility to a degree. The settlements along this route attract large numbers of visitors during the summer months and can result in a concentration of visitor services, (such as car parks, footpaths, interpretation and accommodation), at nearby coastal locations in contrast to the more remote parts of this landscape.

22. The High Cliffs and Sheltered Bays LCT is attributed a High sensitivity to the type of change proposed.

14.1.6 LONG BEACHES, DUNES AND LINKS

23. This landscape type is characterised by narrow strips of variable landform and slopes located along stretches of the east Caithness and Sutherland coastline. A single area of this landscape character type is found within the study area at Sinclair's Bay. The landform provides a soft linear edge to the sea and is characterised by a general openness and panoramic views. This landscape has a very simple visual composition of land, sea and sky.

24. The smoothness of the landscape is emphasised by the character of the sand and the absence of many vertical structures. Dune areas contain high points with extensive views and low pockets of partial enclosure. Views tend to be directed by the enclosure of the bay and by minor foci such as buildings and woodlands on land, or islands, boats and oil platforms offshore.

25. The majority of this landscape is used for recreation and attracts a large number of visitors, with associated development in the form of camp sites and caravan sites a feature of this landscape character type.

26. The Long Beaches, Dunes and Links LCT is attributed a Medium sensitivity to the type of development proposed.

14.1.7 STRATH

27. The landscape character type comprises linear channels of low lying land that pass through surrounding landscape character types. Straths tend to pass through open areas of moorland slopes and hills or cnocan. The key characteristics of this landscape are a degree of enclosure and the distinct contrast of the strath floor with the adjacent slopes.

28. The strath floor is generally open and typically contains a river or loch. Ribbons of broadleaf woodland can occur along water courses located on the strath slopes, with coniferous plantation also found on the strath slopes. Settlements are located at bridging points, at the confluence of rivers and at the mouth of straths. Straths are often used as service routes and may contain roads and power lines. Many straths have a historic character and may feature ancient brochs and old walled enclosures and abandoned crofts.

29. The aspect of the strath strongly affects its character. The steepness of strath slopes tends to contain views from the strath floor. Views along the strath are further restricted where the strath is curved.

30. The Strath LCT is attributed a Low sensitivity to the type of development proposed.

14.1.8 COASTAL SHELF

31. This landscape character type comprises a narrow flat corridor of land wedged between inland hills and open sea along sections of the east Caithness and Sutherland coastline. This landscape forms an elevated platform of distinct linear space with raised beaches, partly enclosed with sea views on one side and a screen of hills on the other. Beach cliffs or dunes can limit visibility of the coastline from inland areas.

32. The pattern of land use is a key characteristic of this landscape character type. The dominant elements are service routes (the main road, power lines and railway) and linear layout of crofts parallel to the coast. Glens and towns intersect the coastline at regular intervals and distinct patterns within the landscape arise from the layout of field boundaries and minor roads; with focal points created by large farmhouses, castles, forts, churches, cemeteries and lighthouses.

33. The coastal shelf is largely agricultural land. Towns within this landscape tend to be located around a bridging point or harbour – which often form a separate landscape character type (discussed below). These areas often contain a number of historic structures which invoke a strong sense of history within the landscape.

34. This landscape is strongly influenced by the characteristics of both land and sea, and the balance between them which varies along the coast. Views inland from the coastal shelf are typically contained to the sky by the adjacent hills. The higher ground at the edge of this landscape is characterised by more open elevated views inland but also by views of the uninhabited coastal shelf and open sea.

35. The Coastal Shelf LCT is attributed a High – Medium sensitivity to the type of development proposed.

14.1.9 HARBOUR

36. Whilst many harbours lie along the Caithness and Sutherland coast, this landscape character type applies where the harbour and associated activity are the main focus of the area. These areas are primarily located along the coastline at the intersection of a glen or at the edge of a bay, usually located within or closely connected to a town.

37. Within the study area, there are three main instances of this landscape character type at Wick, Dunbeath and Helmsdale. These are all local facilities that have been affected to a lesser or greater degree by the general decline in the UK fishing industry. The harbour at Wick still operates as a commercial harbour with onshore facilities and a recently built marina. There are still fishing boats based at the harbour in Helmsdale and it remains a focus of activity within the town. In contrast, the harbour at Dunbeath declined as small fishing boats became less profitable and only a small number of boats now use the harbour.

38. These harbours are strongly affected by the characteristics of the sea, weather and light conditions. They also tend to possess a strong sense of history and include industrial features.

39. The Harbour LCT is attributed a Low sensitivity to the type of development proposed.

14.1.10 OPEN, INTENSIVE FARMLAND

40. This landscape character type occurs at only a few locations in Caithness and is characterised by wide open flat or gently undulating landform below a dominant sky.

41. At a broad scale, these areas have a simple visual composition of sky and agricultural land. This landscape is extremely exposed with extensive visibility and in the absence of many built structures scale can be difficult to discern.

42. The Open Intensive Farmland landscape often exists next to the coastline, where the distinctive coastal light and exposure to extreme weather conditions heightens the effects of these elements.

43. At a detailed level, this landscape is characterised by ordered patterns of land use, consisting mainly of large regular shaped fields. Focal points within the landscape arise from clusters of farm buildings and houses, most noticeably when surrounded by shelter belts. Wind turbines are also now a noticeable feature within some areas. Roads follow a linear pattern of lines create by field and property boundaries.

44. The Open, Intensive Farmland LCT is attributed a Medium sensitivity to the type of change proposed.

14.1.11 MIXED AGRICULTURE AND SETTLEMENT

45. This landscape character type covers much of Caithness. Vast and open, it is a simple landform with a discordant mixture of characteristics. Strongly influenced by human activity and exposure to extreme weather conditions, it is a landscape that is constantly changing.

46. On a broad scale, this landscape is largely open gently sloping land with a horizontal emphasis with spaces defined by occasional hills or woodland. At a detailed level, this landscape has a complex visual composition with no clear hierarchy of features. Lines are created by the skyline, power lines, field boundaries and roads. In addition houses, castles, telecommunication masts, existing wind turbines, and woodland blocks form distinct points. Shallow basins and wide glens contain wetlands and sometimes a river or loch.

47. Historic features are common and highly visible on many hills and within many glens. There are significant areas of neglected land resulting from the general decline in farming and population displacement.

48. There is often no obvious relationship between land use and the physical landscape. The absence of any distinct division between different townships or areas adds further confusion to the complex arrangement of land use, settlements and individual property. Alongside isolated crofts and farms, a few isolated housing estates and villages form minor foci with the landscape. In addition, this landscape contains a fairly even spread of new 'kit' homes which tend not to relate or integrate well with their surroundings.

49. The Mixed Agriculture and Settlement LCT is attributed a Low sensitivity to the type of development proposed

14.1.12 SMALL FARMS AND CROFTS

50. This landscape character type largely occurs along the coast and straths of Caithness and Sutherland. It represents a traditional form of agricultural land use closely related to the landscape. However, external forces have resulted in significant change and a high degree of variation within this landscape.

51. The pattern of human activity, occupation and land division ranges from clearly ordered crofts, to open small farms, marginal moorland and ruined properties. Common characteristics include houses, outbuildings, field patterns, access roads, power lines and fragments of woodland.

52. These areas have a complex visual composition that can be confusing. The arrangement of different elements is often more legible where located near a distinct limiting feature such as a river, the coast or a strath floor. This landscape also contains newer housing, mainly 'kit' homes', which often do not relate well to the land. Significant depopulation is also evident within these areas with abandoned crofts and neglected land. Along the coast, many croft houses are now used as holiday homes.

53. Views within these areas are typically limited by buildings, woodland, barriers and the typically sloping landform. The resulting landscape tends to be a series of partly enclosed, small scale intimate spaces where views are directed towards foreground details.

54. The Small Farms and Crofts LCT is attributed a Medium sensitivity to the type of development proposed

14.2 LANDSCAPE EFFECTS

55. The following paragraphs discuss the effects of the Wind Farm on the landscape character types within the Study Area. The Beatrice ZTVs (Figures 14.2 and 14.3) have been referred to in the assessment of the effects. Please refer to Figure 14.7 for location of the character types. In addition, the viewpoint wireframes and photomontages (Figures 14.13 – 14.42) are relevant to the assessment of specific landscape character types, where this is the case this has been noted throughout the assessment.

14.2.1 SWEEPING MOORLAND

56. The Sweeping Moorland character type is widespread throughout the Study Area, with a large area inland north west of Dunbeath and more sporadic inland areas within the north of the Study Area. The closest areas of this character type to the Wind Farm lie just within 20 km. The ZTVs illustrate that due to the characteristics of this area - wide open gently undulating landform – there is potentially large areas of intervisibility with the Wind Farm. Due to the undulating nature, there will not be continuous visibility of the turbines, especially within the more remote moorland to the north west of Dunbeath. In the more populated areas of Sweeping Moorland which lie in the northern extents of Caithness there are potentially larger areas of intervisibility, however these lie beyond 30 km from the turbines.

57. Any views of the Wind Farm will be a minor and not unusual feature in a landscape type which is characterised by views of existing turbines, and other linear features such as power lines and coniferous plantations. The distance from the Wind Farm will also reduce any effects on the character.

58. It is therefore judged the overall magnitude of impact on the Sweeping Moorlands is Negligible. As the sensitivity to the type of development proposed is Medium to Low, the significance of effect on this character area is Negligible and therefore not significant in terms of the EIA Regulations.

59. None of the agreed representative viewpoints are located within the Sweeping Moorland LCT.

14.2.2 FLAT PEATLAND

60. Although the Flat Peatland character type has similar characteristics to the above Sweeping Moorland, the ZTVs illustrate that within the Study Area there is little if any intervisibility with the Wind Farm. This can be attributed to the flat landform and position of the higher more undulating moorland between the Wind Farm and this character type.

61. It is therefore judged that there will be no impact on the defining characteristics of this landscape type and the magnitude of impact is Negligible to None. As the sensitivity to the type of development proposed is Medium to Low, the significance of effect on this character type is Negligible to None. The effect is not significant in terms of the EIA Regulations.

62. None of the agreed representative viewpoints are located within the Flat Peatland LCT.

14.2.3 MOORLAND SLOPES AND HILLS

63. The ZTVs illustrate that within the two areas of the Moorland Slopes and Hills landscape character type which lie within the Study Area, there will be intervisibility with the Wind Farm on the east and south east facing slopes. This will cover much of the small part of the character type which lies around Rumster Forest, north of Latheron, approximately 24 km from the turbines. The larger area at the south west of the Study Area, at over 30 km away, will have sporadic intervisibility due to the landform.

64. In those areas of intervisibility, although turbines are characteristic in views from most of the landscape type, the Wind Farm will appear in framed views of the sea due to the more elevated and variable slopes. However, at approximately 24 km away, the turbines will not be a prominent feature in these views, with foreground elements such as coniferous plantations and settlement also making up large parts of the scene.

65. Overall, the key characteristics of the Moorland Slopes and Hills character type will be fundamentally unchanged by the Wind Farm and the magnitude of impact is therefore judged as Negligible. As the sensitivity to the type of development proposed is Medium, the significance of effect on this character type is assessed as Negligible and not significant in terms of the EIA Regulations.

66. Representative viewpoint 14, Stemster Hill, is located within the Moorland Slopes and Hills LCT and is illustrated on Figures 14.26 and 14.41.

14.2.4 LONE MOUNTAINS

67. There are two separate areas of this type within the Study Area which both lie beyond 30 km from the turbines. The first is the mountain top of Ben Allsky at 349 m AOD, and the second is a series of peaks which includes Morven (just outside the 40 km study area) at 705 m AOD, Maiden Pap (484 m AOD), and Scaraben (626 m AOD).

68. As expected, due to the height and prominence of these mountains, the ZTVs illustrate that the summits and south eastern slopes will have intervisibility with the Wind Farm. The Wind Farm, however, will be a small part of the extensive panoramic views available from the top of these mountains.

69. The character of the mountains will not be changed by the addition of the turbines; they will still be dominant focal points across the Caithness area where views of a variety of landscapes and man- made elements are visible, including the existing demonstrator turbines and onshore wind farms.

70. Taking the above into account, the magnitude of impact on the Lone Mountains is judged to be Low to Negligible. As the sensitivity to the type of development proposed is High, the significance of effect on this character area is assessed as Moderate to Negligible, thus Minor. The effect is therefore not significant in terms of the EIA Regulations.

71. Representative viewpoint 11, Scaraben, is located within the Lone Mountains LCT and is illustrated on Figures 14.23 and 14.38.

14.2.5 HIGH CLIFFS AND SHELTERED BAYS

72. The dramatic High Cliffs and Sheltered Bays coastal landscape character type lies between Berridale and Helmsdale in the south west of the Study Area, and from Duncansby Head to Skirza Head in the north.

73. The exposed character of the high cliffs will potentially allow clear views of the Wind Farm as illustrated by the ZTVs. The sheltered bays will allow more contained or framed views of the Wind Farm where the orientation allows. Both stretches of this landscape type lie between 30 and 40 km from the site. The Wind Farm lies at an oblique angle to the coastline so that whilst views of the turbines are theoretically possible, they will only occupy a small proportion of the sea views and will not be a prominent feature.

74. The Wind Farm will be a very minor alteration to the characteristics of this landscape type and therefore it is judged that the magnitude of impact on the High Cliffs and Sheltered Bays is Negligible. As the sensitivity to the type of development proposed is High, the significance of effect on this character type is assessed as Negligible and not significant in terms of the EIA Regulations.

75. Representative viewpoint 1, Duncansby Head, is located within the High Cliffs and Sheltered Bays LCT and is illustrated on Figures 14.13 and 14.29.

14.2.6 LONG BEACHES, DUNES AND LINKS

76. Sinclair's Bay is the only area of this type within the Study Area. It lies between 20 and 30 km north west from the Wind Farm. The curving nature of the bay is sheltered by landform which is punctuated by Noss Head to the south and less noticeably at Tang Head to the north.

77. The ZTV illustrates that due to the intervening landform to the south, the intervisibility with the site is limited to blade tip only. The blades of the turbines will potentially be seen above Noss Head and given the existing lighthouse, Wick Airport lighting and settlement, it is unlikely that the turbines will be easily seen. The characteristic sea views out from Sinclair's Bay will therefore remain unchanged and there will be no direct impacts upon those elements that define the character of the landscape type.

78. Therefore, the magnitude of impact on the character type is judged as Negligible to None. As the sensitivity to the type of development proposed is Medium, the significance of effect on this character type is assessed as Negligible to None and not significant in terms of the EIA Regulations.

79. None of the agreed representative viewpoints are located within the Long Beaches, Dunes and Links LCT.

14.2.7 STRATH

80. The ZTV illustrates that there is limited, if any, visibility of Wind Farm from the two areas of Strath within the Study Area. This is due to the linear, enclosed nature of the Straths which run between the Moorland Hills and Slopes, between 30 and 40 km from the Wind Farm. If any visibility is possible, it will be in small areas where views of the sea will be largely obstructed by the intervening land form but this will

have no bearing upon the key elements, features and characteristics that combine to define this landscape character type.

81. Therefore, the magnitude of impact on the Strath landscape character type can be judged as Negligible to None. As the sensitivity to the type of development proposed is Low, the significance of effect on this character area is assessed as Negligible to None. The effect is not significant in terms of the EIA Regulations.

82. None of the agreed representative viewpoints are located within the Strath LCT.

14.2.8 COASTAL SHELF

83. The Coastal Shelf landscape character type is largely located south beyond the 40 km study area except for two small separate areas, one at Ousdale approximately 34 km from the Wind Farm , and the other at East Helmsdale just within 40 km. The ZTV illustrates that there is potential fom some visibility of the Wind Farm within these areas although the adjacent Moorland Slopes and Hills shelter and frame some views.

84. Where visible within open views, the Wind Farm will be seen within a small proportion of sea views and at a considerable distance. The characteristic relationship between the sea and land within this landscape character type will remain intact and any views of the Wind Farm will be a minor feature in comparison to the existing elements such as the main road and power lines that run through the areas.

85. Therefore, the magnitude of impact on the intrinsic character of the Coastal Shelf is judged as Negligible. As the sensitivity to the type of development proposed is High to Medium, the significance of effect on this character type is assessed as Negligible and not significant in terms of the EIA Regulations.

86. Representative viewpoint 12, Navidale, is located within the *Coastal Shelf* LCT and is illustrated on Figures 14. 24 and 14.39.

14.2.9 HARBOUR

87. The harbour areas at Wick, Dunbeath and Helmsdale will potentially have views of the Wind Farm as illustrated by the ZTVs. However, views out the wider seascape are restricted by the characteristic sheltered nature of harbours, range of complex and industrial foreground features and associated activities, especially at the larger Wick harbour. The harbours at Helmsdale and Dunbeath are less active and the presence of the Wind Farm in sea views will not alter their key characteristics.

88. Therefore, the magnitude of impact on the Harbour landscape character type is judged as Low to Negligible. As the sensitivity to the type of development proposed is Low, the significance of effect on this character area is assessed as Minor to Negligible. The effect is not significant in terms of the EIA Regulations.

89. Representative viewpoint 4, Wick, is located within the Harbour LCT and is illustrated on Figures 14.16 and 14.31.

14.2.10 OPEN INTENSIVE FARMLAND

90. The Open Intensive Farmland with open views to the surroundings is present in three main areas within the Study Area, the closest being approximately 16 km from the site and the furthest at 38 km. The ZTV illustrates that the northern and coastal areas of the Open Intensive Farmland surrounding Wick will have potential visibility with the Wind Farm. The other two smaller areas which lie beyond 30 km will only have blade tip visibility. Wind turbines at Flex Hill (Bilbster) and consented turbines at Wathegar lie within the area and, or will be, a feature of the landscape. For much of this landscape type the adjacent more wooded and settled landscape including the town of Wick, prevent any clear views out to the sea and of the Wind Farm.

91. There is one small areas of Open Intensive Farmland which lies south of Wick, straddling the A99 and extending to the coastal edge. From this area views of the sea will be a characteristic and there is potential for the Wind Farm to be a prominent feature in available views, however the intrinsic character of this type will remain largely unaltered.

92. Overall, it is judged that the magnitude of impact on the Open Intensive Farmland is Negligible. As the sensitivity to the type of development proposed is Medium, the significance of effect on this character type is assessed as Negligible and therefore not significant in terms of the EIA Regulations.

93. None of the agreed representative viewpoints are located within the Open Intensive Farmland LCT.

14.2.11 MIXED AGRICULTURAL AND SETTLEMENT

94. The Mixed Agricultural and Settlement landscape character type extends in a narrow band roughly following either side of the A882 road from the coast north of Sarclet to gradually become a larger area surrounding Thurso, which lies beyond the 40 km Study Area.

95. The ZTV illustrates that there will be intermittent visibility of the Wind Farm across the area, noticeably along the coastal parts of the landscape type and within the regions between 30 and 40 km from the Wind Farm .

96. Although generally an open gently undulating landscape, the complex and fragmented characteristics of this landscape type reduces the potential for views out to the wider landscape. Where these views do exist they include a variety of foreground elements, including existing wind farms, so that more distant elements become recessive. Whilst the small coastal part of this landscape type within the Study Area will have open views towards the Wind Farm, it is judged that this will not fundamentally change the key characteristics of the landscape type.

97. The overall magnitude of impact on the Mixed Agricultural and Settlement is Low to Negligible. As the sensitivity to the type of development proposed is Low, the significance of effect on this character type is assessed as Minor to Negligible. The effect is not significant in terms of the EIA Regulations.

98. Two of the agreed representative viewpoints are located within the Mixed Agriculture and Settlement LCT, viewpoints 3, Sortat, and 13, Catchery. These are illustrated in Figures 14.15, 14.25, and 14.40.

14.2.12 SMALL FARMS AND CROFTS

99. The Small Farms and Crofts landscape type is the closest landscape to the Wind Farm, at approximately 13.5 km. It covers the main coastal region within the Study Area extending from Sarclet to Berriedale, a shorter length of coast between Tang Head and Skirza Head, and also an area around John O'Groats and inland an isolated area south east of Halkirk.

100. The ZTV illustrates that almost all of these areas except for around John O'Groats will have visibility with the Wind Farm. The turbines, whilst not having a direct material effect on the character type, will become a visual characteristic for the majority of the type within the Study Area. However, as sea views are not a key defining characteristic it is considered that the fragmented and complex nature of this landscape type will be able to accommodate the addition of the Wind Farm to some degree within the available sea views.

101. Therefore, the key characteristics of the type will remain largely unchanged and the magnitude of impact on the Small Farms and Crofts character area is judged as Low. As the sensitivity to the proposed development is Medium, the significance of effect on this character area is assessed as Moderate-Minor. The effect is therefore not significant in terms of the EIA Regulations.

102. Seven of the agreed representative viewpoints are located within the Small farms and Crofts LCT, viewpoints 2 and 5 to 10 inclusive. These are illustrated on Figures 14.14, 14.17-22, 14.30 and 14.32-37.

APPENDIX 14.5: VISUAL ASSESSMENT

14.1 EFFECTS UPON VISUAL RECEPTOR GROUPS

14.1.1 SEQUENTIAL VISUAL EFFECTS ON MAIN ROADS

14.1.1.1 A9 (South)

1. The A9 (South) is a coastal road that lies within the 60 km study area between Golspie and Latheron, extending over 55km at a distance of between 60 and 25 km from the Wind Farm. Graph 1 (Appendix 14.8) illustrates that, when travelling north from the extents of the Study Area, theoretical visibility of the Wind Farm is not possible until just south of Brora followed by the potential for long stretches of views towards the Wind Farm, albeit beyond 30 km away. There is a noticeable gap in potential views of the Wind Farm from approximately Helmsdale to Berriedale. The road at this point lies further inland and cuts between the elevated coastal shelf so that views out to sea are very intermittent. Theoretical visibility continues travelling north to Latheron with another gap in visibility where the road wraps inland around Dunbeath.

2. As the road follows the coast, the views of the sea are a characteristic of the journey and for a large part of this route, when travelling north, the graph shows that there is the potential for views of the Wind Farm. However, at between 60 and 25 km from the Wind Farm, it is unlikely that the Wind Farm will become a discernible feature until nearing Latheron. Southbound travellers will experience a reduced magnitude of effect as the Wind Farm will lie behind them and the direction of travel for the majority of the route.

14.1.1.2 A9 (North) (Appendix 14.8 - Graph 3)

3. This section of the A9 extends south towards the Wind Farm from Thurso to Latheron. It is a 37 km stretch lying between 25 and 50 km from the Wind Farm. Graph 3 illustrates that there are only two points along the road where the TURBINEs will be visible when travelling south. One point is the elevated area north of Causeymire Wind Farm, approximately 35 km from the Wind Farm. The other is north of Latheron, where the road descends towards the coast and open views of the sea become available.

14.1.1.3 A99 (Appendix 14.8 - Graph 5)

4. The A99 follows the coastline from John O'Groats to Latheron, for a 55 km stretch from just within 40 km to, at closest, 15 km from the Wind Farm. Due to the Wind Farm's location in relation to the A99, both northbound and southbound travellers will potentially experience views of the turbines. The graph illustrates that there is theoretically almost continuous visibility of the turbines along the A99, with gaps in visibility only occurring around Freswick Bay, Keiss, a 4 mile stretch south of Wick, and a short stretch west of Lybster.

5. Sea views are a characteristic for the majority of the route and the Wind Farm will become a prominent element in these views when travelling towards Wick from

John O'Groats, and either direction between Wick and Latheron. This latter stretch at closest to the wind farm will potentially have the greater effects.

14.1.1.4 A882 (Appendix 14.8 - Graph 7)

6. The A882 is a connecting road between the A99 at Wick and the A9 (North), 16 km south of Thurso. The road lies at a distance of between 18 and 50 km to the Wind Farm. Travelling from the north, the graph shows that there is theoretical visibility of the Wind Farm from only three points. At 40 km there is the potential to see the Wind Farm at a place called Roadside and also a 3.5 km stretch north of Loch Watten at approximately 35 km from the Wind Farm. At this distance and given the intervening landuse and vegetation it is unlikely that the turbines will be significant in views and the key characteristics of the route will be fundamentally unchanged.

14.2 VISUAL EFFECTS

14.2.1 VIEWPOINTS

7. The following section presents the assessment of viewpoints which have been found to have effects which are not significant in terms of the EIA Regulations. The assessment of viewpoints where the magnitude of impact was medium or greater is presented within the SLVIA Chapter.

14.2.1.1 Viewpoint 1: Duncansby Head (Figures 14.13 and 14.29)

8. The wireframe and photomontage illustrate that the turbines will occupy 21 degrees of the illustrated 135 degree view. The closest turbine will be 36.74 km from the Viewpoint. The turbine arrangement will appear to fan out from the centre of the site with overlapping turbines to more open individually spaced turbines at the edges of the Wind Farm.

9. The turbines will be potentially visible on clear days but will not be a prominent feature at this distance. The Wind Farm lies approximately 10 degrees east of the foreground coastal cliffs and from this Viewpoint will not be within the immediate portion of view which includes the Stacks of Duncansby.

10. The OSPs, whilst smaller structures, are solid masses, and as such may be seen from this distance when potentially the turbines will not. They will appear as similar to the existing oil/ gas platforms which can just be made out on a clear day from this Viewpoint appearing as noticeable points on the horizon. However, no detail of the structures will be seen nor will they appear prominent.

11. The addition of the Wind Farm to the view will only be a minor to very minor alteration in the view so that the harmonious and open landscape character visible from Duncansby Head will remain intact, with the characteristic views towards the coastal features unchanged. Therefore, the magnitude of visual impact arising from the Wind Farm is assessed as Low to Negligible. When combined with the High sensitivity to the type of development proposed of the key receptor group of visitors, the effect is assessed to be Moderate to Negligible, thus Minor. The effect is not significant in terms of the EIA Regulations.

14.2.1.2 Viewpoint 2: Keiss Pier (from local road leading to Pier) (Figures 14.14 and 14.30)

12. The wireframe and photomontage show that the turbines will occupy 25 degrees of the illustrated 135 degree views. The nearest turbine will be 27.35 km from the Viewpoint. The majority of the turbines and all the substations will be obscured from view behind Noss Head, with potentially only the very tip of the blades visible above. The turbines which are visible will be in two groups, one consisting of just 2 turbines and a more regularly spaced group of turbines until they disappear behind Noss Head.

13. As shown in the photomontage the turbines will just be discernible extending out from Noss Head. They will be a recessive element within the wider view and not detract from the lighthouse at Noss Head, or views across Sinclair's Bay.

14. Therefore, as the Wind Farm will be a very minor alteration to the view, the overall view will remain largely unchanged. The magnitude of visual impact arising from the Wind Farm is therefore judged to be Low to Negligible. When combined with sensitivity which is High for residents, and Medium to Low for harbour users, the effect is assessed to be Moderate to Negligible (i.e. Minor) for residents to Moderate-Minor to Minor to Negligible for workers. There are therefore no significant effects in terms of the EIA Regulations either on residents or harbour users.

14.2.1.3 Viewpoint 3: Sortat (Figure 14.15)

15. The wireframe shows that the turbines occupy 26 degrees of the illustrated 135 degree view shown. The nearest turbine would be 32.49 km from the Viewpoint. The turbines are mostly obscured by landform, especially to the south, but with rows of turbines potentially discernible to the north. There will be no substations visible at this point.

16. Sea views are not a characteristic from this Viewpoint and it is clear in the photo-panorama that the intervening vegetation and land use will obscure most if not all the turbines from view. For this reason, a photomontage was not constructed for this viewpoint.

17. Therefore, as there will be very little, if any, change to the key elements of the view, the magnitude of visual impact arising from the Wind Farm is assessed as Negligible to None. As the key receptor group of local residents have a High sensitivity to the proposed change, the effect is assessed to be Negligible to None. The effect is not significant in terms of the EIA Regulations.

14.2.1.4 Viewpoint 8: Latheron (Figures 14.20 and 14.35)

18. The wireframe and photomontage show that the turbines will occupy 36 degrees of the 135 degree illustrated view and the closest turbine will be 22.98 km from the Viewpoint. The turbines appear in one group along the horizon. The centre turbines will be in stacked rows which gradually splay out to a more random arrangement. Turbines to the south appear slightly further apart and there are two turbines in the north which appear apart from the main group.

19. The turbines extend from the north in line with the top of the sloping coastal shelf becoming more apparent as the land falls and the sea becomes a larger element within the view to the east and south. They will be noticeable features across the horizon but the proximity to the landform in the north of the view will reduce the prominence to some degree.

20. The OSPs will also appear within the turbine array as noticeable, but not particularly prominent, points at this distance in comparison to the slightly larger oil/gas platforms visible to the centre and south of the view.

21. Therefore, as the Wind Farm will be a partial alteration to the key features of the view, the magnitude of visual was assessed as medium. As the key receptor group of travellers have a medium to low sensitivity to the proposed change, the effect was assessed as Moderate to Moderate-Minor which does not constitute a significant effect in terms of the EIA Regulations

14.2.1.5 Viewpoint 11: Scaraben (Figures 14.23 and 14.38)

22. The wireframe and photomontage show that the turbines occupy 25 degrees of the illustrated 135 degree view. The closest turbine is 33.06 km from the Viewpoint.

23. The turbines appear below the horizon with their grid pattern just evident due to the elevation of this viewpoint at 586.3m AOD. The photomontage illustrates that they will be a noticeable element but the elevation and distance reduces their prominence within the view. The substations are also potentially visible but as they are seen below the horizon, the prominence of their solid structures is reduced. Taking into account the wider 360 degree views available at Scaraben which include other wind farms, settlement and industry, the significance will be further reduced.

24. It is therefore assessed that the Wind Farm will be a minor alteration to the key characteristics of the view and the magnitude of visual impact is Low. As the key receptor group of walkers have a High sensitivity to the proposed change, the effect is assessed to be Moderate[1]. This effect is not Significant in terms of the EIA Regulations.

14.2.1.6 Viewpoint 12: Navidale (Figures 14.24 and 14.39)

25. The wireframe and photomontage illustrates that the Wind Farm will appear as one group across 20 degrees of the illustrated 135 degree view. The closest turbine will be 38.06 km from the Viewpoint.

26. Within the group, the wireframe shows that the turbines appear within defined rows which create smaller groups at this distance. However, at this distance, the photomontage shows that the turbines and their formation will be barely discernible. There is potential that the landform in the north which gradually slopes towards the sea will lead the eye to the Wind Farm, but again, at this distance the turbines will not be a prominent element.

[1]As defined in the SLVIA Assessment Methodology (Appendix 14.2) effects which are moderate are not significant in terms of the EIA Regulations.

27. The substations are potentially visible but will appear as minor points along the horizon, much smaller than the nearer existing oil/gas platforms which lie to the south.

28. Therefore it is judged that the Wind Farm will be only a minor to very minor alteration to the key characteristics of the view, and the magnitude of visual impact is Low to Negligible. As the key receptor groups of residents and travellers have a High and Medium to Low sensitivity to the type of change proposed respectively, the effect is assessed as Moderate to Negligible i.e. Minor for residents and Moderate-Minor to Minor to Negligible for travellers neither of which constitutes a significant effect in terms of the EIA Regulations.

14.2.1.7 Viewpoint 13: Catchory (Figures 14.25 and 14.40)

29. The wireframe illustrates that the turbines will occupy 18 degrees of the illustrated 135 degree view. The closest turbine will be 29.48 km from the Viewpoint.

30. The wireframe shows that only the hubs and blade tips of some of the turbines will be visible, and in reality, as shown in the photomontage, the landuse and vegetation will obscure and reduce the potential to easily see the blades with the naked eye. Therefore the view will remain largely unchanged and the magnitude of effect is judged to be Negligible. As the key receptor groups of local residents and farm workers have a High and Medium – Low sensitivity to the type of change proposed respectively, the effect for both residents and farm workers is assessed as Negligible. For both receptor groups this does not constitute a significant effect in terms of the EIA Regulations.

14.2.1.8 Viewpoint 14: Minor Road, south side of Stemster Hill (Figures 14.26 and 14.41)

31. The wireframe illustrates that the turbines will occupy 35 degrees of the illustrated 135 degree view. The closest turbine will be 26.28 km from the Viewpoint.

32. The turbines will be visible in the horizon with the northern extents obscured to some degree by the intervening landform. The central and southern part of the Wind Farm will be visible within its sea context. The turbines will appear in an overall regular arrangement with some stacked rows visible within the centre of the site. At this elevated Viewpoint (199.02 m AOD), the depth of the Wind Farm array will be discernible.

33. Approximately two thirds of the number of turbines will potentially be visible, and those that are will be seen to 'sit' below the horizon line from this more elevated viewpoint. The remaining third of the total number of turbines will be substantially screened below hub height by local landform in the middle distance to the view. As part of the visible turbines will be seen beneath the horizon line this will assist in reducing the potential skylining effects although they will still be noticeable features within the available panorama.

34. The expansive foreground landscape extends to an intermediate horizon reducing the seascape visible which at this elevated viewpoint reduces the prominence of the turbines. However, they still will be a noticeable element within the view as the

sweeping moorland and coniferous plantations create a relatively remote and simplistic foreground, with few distracting features.

35. It is therefore assessed that Wind Farm will be a partial to minor alteration to the key elements of the view, and the magnitude of visual impact is Medium to Low. As travellers have a Medium to Low sensitivity to the type of development proposed, the effect is considered Moderate to Minor which is not significant in terms of the EIA Regulations.

14.2.1.9 Viewpoint 15: Aberdeen to Orkney/Shetland Ferry Route (Figure 14.42)

36. Viewpoint 15 lies 19.73 km to the north east of the Beatrice Offshore Wind Farm, and approximately 30 km directly east of Wick. The TURBINEs occupy 21 degrees of the 90 degree illustrated view. The view is representative of those potentially available to passengers on the Aberdeen-Orkney ferry route. It is approximately the closest point the usual ferry route passes to the Wind Farm.

37. It is apparent at this relatively low viewpoint that a considerable length of the turbine columns will be below the horizon line. The turbines appear as one group with some rows visible but mostly a mass of overlapping columns and blades within the centre and east of the group becoming more spaced out towards the north west. The overlapping and stacking will potentially increase the prominence of the Wind Farm.

38. The wireframes illustrate the silhouette of the mountainous landform and cliff coastline of Caithness lies to the west of the view. The turbines will be at a similar height to the higher landform visible at this point. Existing oil/gas platforms are also likely to be visible within this area, however the extent and scale of the proposed Wind Farm will become a focus of the view in an otherwise open and expansive view.

39. It was therefore judged that the overall magnitude of impact is Low to None as it is a transitory Viewpoint and the impact will only be for a small proportion of the ferry's overall route. In passing, at closest 19 km, there is potential for greater impacts but for only a short period of time. As the passengers on the ferry will have a Medium to Low sensitivity to the Wind Farm, the overall effect was assessed as Moderate-Minor to Minor to None. The effect is not significant in terms of the EIA Regulations.

14.2.1.10 Viewpoint 16: Aberdeen to Orkney/Shetland Ferry Route (Figure 14.42)

40. Viewpoint 16 lies further north on the Aberdeen to Orkney/Shetland ferry route than Viewpoint 15, at 29.74 km from the nearest turbine and approximately 32 km directly east of Keiss. The turbines will occupy 15 degrees of the 90 degree illustrate view. A large proportion of the turbine columns will be below the horizon at this distance and low elevation so that it will only be the hubs and blades that are visible. They will appear as one clustered group with many overlapping turbines which become more spaced out towards the north west. The silhouette of the Caithness coastline will be discernible to the west with really only the mountainous areas prominent.

41. At just under 30 km from the Wind Farm and at only just above sea level, the turbines will not be a clear or prominent feature. However the expansive and simple sea context may increase the visibility of the turbines on clear days.

42. As for Viewpoint 15, the overall magnitude of impact was judged as Low to None as it is a transitory viewpoint and the impact will only be for a small proportion of the ferry's overall route and at a considerable distance. As the passengers on the ferry will have a Medium to Low sensitivity to the proposed change, the overall effect was assessed as Moderate-Minor to Minor to None. The effect is not significant in terms of the EIA Regulations.

THIS PAGE IS INTENTIONALLY BLANK

Monthly Average Visibility taken from METAR data Wick Airport 2004-2005

2004	Percentage Visibility (Nautical Miles) from Wick										
Month	0 to 1	1 to 2	2 to 3	3 to 4	4 to 5	5 to 6	6 to 7	7 to 8	8 to 9	9 to 10	>10
January	1	3	2	3	1	4	4	2	4	3	71
February	1	1	1	4	2	5	6	4	10	5	61
March	0	1	3	2	2	5	7	2	5	3	70
April	1	2	4	9	3	4	5	2	6	2	62
May	5	2	2	5	2	7	4	3	6	2	61
June	2	2	2	5	3	8	6	3	6	4	61
July	0	1	3	4	2	3	3	3	8	2	71
August	14	3	7	10	5	8	7	2	8	3	33
September	3	2	3	3	1	2	5	2	4	2	73
October	0	1	3	5	3	8	3	3	5	2	68
November	0	2	2	3	1	3	3	1	4	2	81
December	1	0	1	1	0	2	2	2	6	3	81

2005	Percentage Visibility (Nautical Miles) from Wick										
Month	0 to 1	1 to 2	2 to 3	3 to 4	4 to 5	5 to 6	6 to 7	7 to 8	8 to 9	9 to 10	>10
January	0	1	3	3	1	3	7	2	5	2	72
February	1	1	1	1	1	3	3	2	5	4	76
March	4	5	4	5	3	6	6	3	7	4	53
April	0	3	5	5	3	6	7	3	6	3	59
May	3	1	2	3	3	5	4	2	6	3	67
June	2	2	3	5	2	4	4	3	4	4	68
July	1	1	2	2	1	2	3	1	4	1	81
August	4	2	1	3	1	3	3	2	4	1	75
September	1	2	2	5	2	4	4	1	4	5	71
October	0	1	3	5	2	8	9	6	10	6	49
November	0	1	3	4	2	4	5	4	10	7	58
December	0	1	1	4	3	10	7	4	10	8	50

THIS PAGE IS INTENTIONALLY BLANK

APPENDIX 14.7: CUMULATIVE ASSESSMENT

14.1 SEASCAPE CUMULATIVE EFFECTS – REGIONAL SEASCAPE UNITS

14.1.1 REMOTE HIGH CLIFFS – DUNCANSBY HEAD TO SKIRZA HEAD RSU

1. The Wind Farm will lie approximately 33 km at its closest point to the landward element of the unit, and beyond 50 km at furthest.

2. There are no existing wind farms within this RSU and therefore cumulative impacts will be limited to the visual characteristics of the seascape unit. There will be the potential for views of up to 8 existing and consented wind farms and potential offshore visibility of up to 3 'in-planning' sites with the Wind Farm as illustrated in Figures 14.9 and 14.10. In reality, the consented Stroupster Wind Farm is the only site which has the potential to cause cumulative effects with the Wind Farm on account of its relative proximity to the coastline and the RSU. As established above, the proposed Wind Farm Site will be at a considerable distance from this RSU and will not be a prominent feature. Moreover, Stroupster Wind Farm is located to the west of the RSU whilst the Wind Farm is located on the distant horizon to the south of the RSU. They will thus rarely be visible within the same sector of view. In combination with one onshore wind farm, which by its proximity will potentially have more of an individual effect on the visual characteristics of the unit, it is judged that the cumulative magnitude of impact on the character of this RSU arising from teh Wind Farm is Negligible. As the sensitivity to the type of change proposed is considered High, the significance of cumulative effect on the Duncansby Head to Skirza Head RSU arising from the addition of the Wind Farm is assessed as Negligible. This is not a significant cumulative effect in terms of the EIA Regulations.

14.1.2 DEPOSITION COASTLINE – SINCLAIR'S BAY RSU

3. As it was judged in the main assessment that there would be negligible magnitude of impact, and thus negligible significance of effect, arising from the Wind Farm on this RSU of medium sensitivity it can similarly be judged that there will be also negligible cumulative significance of effects. There is thus no significant cumulative effect upon the character of this RSU in terms of the EIA Regulations.

14.1.3 NARROW COASTAL SHELF – BERRIEDALE TO HELMSDALE RSU

4. There are no existing or proposed wind farms which lie within the Berriedale to Helmsdale RSU. There are, however, in addition to the Wind Farm, wind farm sites which potentially have a visual influence on the RSU. The ZTVs in Figures 14.10 and 14.11 illustrate that there is potentially up to 2 existing/consented sites visible from the land extents and up to 4 sites visible from the outer sea extents of this RSU. The Beatrice Demonstrator turbines lie just beyond the sea extents of this RSU and will be seen from the sea and land extents. The other existing/consented wind farm visible is likely to be Buolfruich, Gordonbush or Burn of Whilk, all which lie beyond 10 km from the land extents of the unit.

5. Figure 14.9 shows that there will be limited cumulative effects with proposed sites onshore and only up to 2 sites offshore within this unit. This is likely to include the

Dunbeath Wind Farm as the closest proposed site to the unit at just within 10 km to the north east.

6. Due to the distance the onshore sites are located from the RSU, they will not appear prominent from the limited areas where intervisibility on land is shown on Figures 15.10 and 15.11. From offshore the sites will also be recessive within a wider and elevated landscape backdrop. The conclusion is, therefore, that views of wind farms are not a key characteristic of this RSU. The addition of the Wind Farm, whilst potentially a noticeable feature from the seaward extents, will therefore not contribute to any cumulative effects that impact upon the character of this RSU. The cumulative magnitude of impact is thus judged as Negligible. As the sensitivity to the type of change proposed is considered Medium to Low, the significance of cumulative effect on character of the Berriedale to Helmsdale RSU is assessed as Negligible. This is not a significant effect in terms of the EIA Regulations.

14.2 SEASCAPE CUMULATIVE EFFECTS - SEASCAPE CHARACTER TYPES

14.2.1 DEEP SEA FISHING AND SHIPPING

7. This seascape character type lies across the eastern extents of the study area, approximately 10 km from the Wind Farm at its closest point and extends further east for an undefined distance.

8. There are no wind farms within this seascape type. The cumulative ZTVs confirm that the number of wind farms potentially visible from within this seascape character type decreases with distance offshore such that only the Wind Farm will be visible from within the outer extents of that part of the seascape character type included within the study area. As above, the onshore wind farms, both existing and proposed, will be recessive elements in expansive views of the wider landscape. The Beatrice Demonstrator turbines lie beyond the proposed Wind Farm Site in any views from this character area and therefore there will be only limited cumulative effects.

9. It is therefore judged that the magnitude of cumulative impact arising from the addition of the Wind Farm on the character of the seascape character area is Negligible. As the sensitivity to the type of change proposed is considered Low, the significance of cumulative effect on the Deep Sea Fishing and Shipping seascape character area is assessed as Negligible. This is not a significant effect in terms of the EIA Regulations.

14.3 LANDSCAPE CUMULATIVE EFFECTS

14.3.1 SWEEPING MOORLAND

10. The landscape assessment established that for this receptor of Medium to Low sensitivity there will be a Negligible magnitude of impact and hence significance of effect, arising from the Wind Farm upon the character of the Sweeping Moorland LCT. Given this it can similarly be judged that there will be also a Negligible magnitude of impact and significance of cumulative effect arising from the addition of the Wind Farm. This is not a significant effect in terms of the EIA Regulations.

14.3.2 FLAT PEATLAND

11. The landscape assessment established that for this receptor of Medium to Low sensitivity there will be a Negligible to None magnitude of impact, and hence significance of effect, arising from the Wind Farm upon the character of the Flat Peatlands LCT. Given this it can similarly be judged that there will also be a Negligible to None magnitude of impact and significance of cumulative effects arising from the addition of the Wind Farm. This is not a significant effect in terms of the EIA Regulations.

14.3.3 MOORLAND SLOPES AND HILLS

12. The landscape assessment established that for this receptor of Medium sensitivity there will be a Negligible magnitude of impact arising from the Wind Farm upon the character of the Moorland Slopes and Hills LCT. Given this it can similarly be judged that there will be also a Negligib*le* magnitude of impact and arising from the addition of the Wind Farm. This is not a significant effect in terms of the EIA Regulations.

14.3.4 HIGH CLIFFS AND SHELTERED BAYS

13. The landscape assessment established that for this receptor of High sensitivity there will be a Negligible magnitude of impact arising from the Wind Farm upon the character of the High Cliffs and Sheltered Bays LCT. Given this it can similarly be judged that there will be also a Negligible magnitude of impact arising from the addition of the Wind Farm. This is not a significant effect in terms of the EIA Regulations.

14.3.5 LONG BEACHES, DUNES AND LINKS

14. The landscape assessment established that for this receptor of Medium sensitivity there will be a Negligible to None magnitude of impact arising from the Wind Farm upon the character of the Long Beaches, Dunes and Links LCT. Given this it can similarly be judged that there will be also a Negligible to None magnitude of impact arising from the addition of the Wind Farm. This is not a significant effect in terms of the EIA Regulations.

14.3.6 STRATH

15. The landscape assessment established that for this receptor of Low sensitivity there will be a Negligible to None magnitude of impact arising from the Wind Farm upon the character of the Strath LCT. Given this it can similarly be judged that there will be also a Negligible to None magnitude of impact arising from the addition of the Wind Farm. This is not a significant effect in terms of the EIA Regulations.

14.3.7 COASTAL SHELF

16. The landscape assessment established that for this receptor of High to Medium sensitivity there will be a Negligible magnitude of impact arising from the Wind Farm upon the character of the Coastal Shelf LCT. Given this it can similarly be judged that there will be also a Negligible magnitude of impact arising from the addition of the Wind Farm. This is not a significant effect in terms of the EIA Regulations.

14.3.8 OPEN INTENSIVE FARMLAND

17. The landscape assessment established that for this receptor of Medium sensitivity there will be a Negligible magnitude of impact, and hence significance of effect, arising from the Wind Farm upon the character of the Open Intensive Farmland LCT. Given this it can similarly be judged that there will be also a Negligible magnitude of impact and significance of cumulative effect arising from the addition of the Wind Farm. This is not a significant effect in terms of the EIA Regulations.

14.4 CUMULATIVE VISUAL EFFECTS - VIEWPOINTS

14.4.1 VIEWPOINT 1: DUNCANSBY HEAD

18. The ZTVs shown in Figures 14.10 and 14.11 illustrate that there will be no in-planning wind farms visible but up to 2 operational or consented wind farms potentially visible from the Duncansby Head viewpoint in combination with the Wind Farm. The cumulative wireframe illustrates the same situation in that the only turbines visible are part of the consented Stroupster wind farm and the offshore Beatrice Demonstrator turbines. The blades and hubs of four of Stroupster's turbines are visible above the landform, approximately 8.5 km to the south west of the viewpoint. They will be noticeable features at this distance and appear at a larger scale to those of the Wind Farm. However, within the overall view, they will be a minor element and combined with the Wind Farm, there will be limited cumulative effects. The Beatrice Demonstrator turbines lie over 56 km from the viewpoint and as judged by site visits and the photograph they will not be able to be easily seen, even on a clear day from this viewpoint.

19. The magnitude of cumulative visual impact is therefore judged as Negligible. As the sensitivity of visitors to the proposed change is High, the significance of cumulative effect is assessed to be Negligible. This is not a significant cumulative effect in terms of the EIA Regulations.

14.4.2 VIEWPOINT 2: KEISS PIER (FROM LOCAL ROAD LEADING TO PIER)

20. The ZTVs in Figure 14.10 illustrates that there is the potential for up to 6 wind farms and the Wind Farm to be visible from Keiss Harbour. Figure 14.11 shows that there would be no in-planning wind farms visible at this point.

21. Existing turbines are visible to the south of this viewpoint at Achairn and Flexhill but are not easily discernible at just over 10 km away. The existing Causeymire turbines are, however, not visible. It is likely that the consented Wathegar turbines, which will lie close to Flexhill, will be visible, and also the 25 turbine site at Camster which will lie behind Wathegar. There is also the potential that Burn of Whilk wind farm will be seen, but at over 20 km away will not be a prominent feature. In the opposite direction to this cluster of wind farms, the Stroupster turbines lie approximately 5 km north of Keiss and whilst not in the same direction of view as the Wind Farm, it will potentially be a prominent element in this area.

22. The Wind Farm will extend the presence of wind farms to the sea within this view. However, as judged above, the distance and location of the turbines reduces the individual effects. Whilst there is the potential to see a large number of onshore

sites these also lie relatively recessively in the landscape so that wind farms, except potentially individually at Stroupster, do not dominate the views at this point. It was therefore judged that the magnitude of cumulative visual impact arising from the addition of the Wind Farm is low to negligible. When combined with a range of high to medium - low sensitivities to the type of change proposed on the key receptor groups of residents and workers, the significance of cumulative effect was assessed to be Moderate to Negligible (i.e. Minor) for residents to Moderate-Minor to Minor to Negligible for workers. There is therefore no significant cumulative effect in terms of the EIA Regulations.

14.4.3 VIEWPOINT 3: SORTAT

23. As it has been assessed in the main assessment that there are Negligible to No visual impacts arising from Wind Farm at this viewpoint it can be similarly judged that there will be Negligible to None magnitude of cumulative impacts and significance of effects arising from the addition of the Wind Farm. There is therefore no significant cumulative effect in terms of the EIA Regulations.

14.4.4 VIEWPOINT 4: WICK BAY (NORTH)

24. The sheltered harbour location of this viewpoint prevents views of any other wind farms. Therefore there will be no cumulative effects. There is therefore no significant cumulative effect in terms of the EIA Regulations.

14.4.5 VIEWPOINT 5: SARCLET

25. The cumulative ZTVs in Figures 14.10 and 14.11 illustrate that there would be the potential for up to 2 operational or consented sites to be visible in combination with the Wind Farm at this viewpoint. This will include the Beatrice Demonstrator turbines which are visible within the photo-panorama. There are currently no other wind farms visible. However, the recently consented turbines at Burn of Whilk lie within 10 km of the viewpoint and potentially could be seen in succession.

26. The wireframes and photo-panoramas show that the Beatrice Demonstrator turbines lie to the right of the view within a small area of sea visible above the foreground pasture. The two turbines are a very minor and recessive element within the wider view. In comparison the scale and extent of the Wind Farm will be a prominent feature across a large proportion of the view. Therefore, the main visual effect experienced from this viewpoint will be of the proposed Wind Farm on its own and any cumulative effects with the Beatrice Demonstrator turbines will be limited. Equally, any combined views of the Burn of Whilk or other wind farms will be seen with a backdrop of landscape and disconnected from the Wind Farm.

27. It was therefore judged that the magnitude of cumulative visual impact arising from the addition of the Wind Farm is Low. As the sensitivity of the key receptors of local residents and visitors have a high and high to medium sensitivity respectively to the proposed change, the significance of cumulative effect was assessed as Moderate for local residents and Moderate to Moderate-Minor for visitors. There is therefore no significant cumulative effect in terms of the EIA Regulations.

14.4.6 VIEWPOINT 7: LYBSTER (END OF MAIN STREET)

28. The Beatrice Demonstrator turbines are the only other wind farm to be visible in combination with the Wind Farm at this viewpoint. Similar to the two viewpoints at Sarclet and Hill O' Many Stanes, the Beatrice Demonstrator turbines will appear as very minor and separate elements to the Wind Farm. The scale and extent of the Wind Farm across much of the view will be the prominent feature in comparison and cumulative effects with the Demonstrator turbines will therefore be limited.

29. It was therefore judged that the magnitude of cumulative effect arising from the addition of the Wind Farm would be low. As the key receptor group of local resident's sensitivity is high, the significance of cumulative effect was assessed to be Moderate. There is therefore no significant cumulative effect in terms of the EIA Regulations.

14.4.7 VIEWPOINT 8: LATHERON (A9)

30. At this viewpoint on the A9 near Latheron, the Beatrice Demonstrator turbines will be the only other wind farm to be visible in combination with the Wind farm. The Beatrice Demonstrator turbines will appear a considerable distance to the south of the Wind Farm as separate minor elements within the wider view. In comparison, the Wind Farm will appear larger and more prominent across a large proportion of the sea view creating the main visual effect, therefore reducing any cumulative effects.

31. Taking this into account it was judged that the magnitude of cumulative effect arising from the addition of the Wind Farm would be low. As the key receptor group of travellers' sensitivity is medium to low, the significance of cumulative effect was assessed to be Moderate-Minor to Minor. There is therefore no significant cumulative effect in terms of the EIA Regulations.

14.4.8 VIEWPOINT 10: WHALIGOE STEPS

32. At this viewpoint it is only the Beatrice Demonstrator turbines which have the potential to create cumulative effects with the Wind Farm. The Beatrice Demonstrator turbines are just visible at the southern extent of the view and are a minor, recessive, element in comparison to the extent and scale of the Wind Farm which lies across a large proportion of the view. Similar to the Sarclet and Hill O' Many Stanes viewpoints, the Wind Farm Site will create the main visual effects and any cumulative effects with the Demonstrator turbines are limited.

33. It is therefore judged that the magnitude of cumulative effect arising from the addition of the Wind Farm is low. As the sensitivity of the key receptor group of visitors is high to medium, the significance of cumulative effect is assessed as Moderate to Moderate-Minor.

34. The sensitivity for residents is high and as such the cumulative effect is assessed as Moderate for residents. The cumulative effect on both residents and visitors is not significant in terms of the EIA Regulations.

14.4.9 VIEWPOINT 11: SCARABEN

35. The Cumulative ZTV Figures 14.10 and 14.11 show that there is the potential for all the wind farms within the study area to be seen from the top of Scaraben. The existing turbines at Buolfruich at 11 km and Causeymire at 22.75 km are visible against the backdrop of coniferous woodland. The other existing wind farms at Flex Hill, Achairn, Forss and Beatrice Demonstrator site are not easy to pick out with the naked eye from this viewpoint. The cumulative wireframe (Figure 14.49) illustrates that the proposed Dunbeath Wind Farm, at km away from the viewpoint, will be the most prominent of the consented sites visible. In addition, there is the potential for the consented Upper Smerral, Spittal Hill and Halsary wind farms to be seen, but these will be less noticeable. A combination of landform, forestry and distance will limit the visibility of the other wind farms illustrated on the wireframe.

36. Whilst there is the potential that the landscape could be perceived as a wind farm landscape from this viewpoint, the expansive views, elevation and distance reduce the prominence of these elements to minor features including the Wind Farm. The addition of the Wind Farm will therefore not create significant cumulative effects and the magnitude of cumulative impact was judged as low. As the sensitivity of walkers to the proposed development is high to medium, the significance of cumulative effect was assessed to be Moderate to Moderate-Minor. There is therefore no significant cumulative effect in terms of the EIA Regulations.

14.4.10 VIEWPOINT 12: NAVIDALE

37. The cumulative ZTVs in Figure 14.10 show that up to 2 existing/consented sites will be visible from this viewpoint, and Figure 14.11 show no other 'in-planning' sites would be visible. The Beatrice Demonstrator turbines lie to the south of the site and can be seen in the photograph at a similar scale to the Wind Farm due to its closer location. As for the Wind Farm, the Beatrice Demonstrator turbines are not prominent features at this distance and the eye is drawn more to the closer existing oil/gas platforms. There are no other existing sites visible from the viewpoint and although the closest consented onshore wind farm is Gordonbush Wind Farm, 15 km to the west of the viewpoint, the coastal shelf topography will preclude any views at this point.

38. Therefore the cumulative effects are limited to those arising from the Beatrice Demonstrator turbines and the Wind Farm which at this distance from the viewpoint are both noticeable but not prominent features. It was judged that the magnitude of cumulative impact is low to negligible. As the key receptor groups of residents and travellers have a high and medium - low sensitivity respectively to the proposed change, the significance of cumulative effect was assessed to be Moderate to Negligible (i.e. Minor) for residents and Moderate-Minor to Minor to Negligible for travellers. There is therefore no significant cumulative effect in terms of the EIA Regulations.

14.4.11 VIEWPOINT 13: CATCHORY

39. As there have been negligible impacts and significance of effects assessed in the main assessment for the Wind Farm for this viewpoint, it can be similarly judged

that there will be negligible cumulative impacts and significance of effects arising from the addition of the Wind Farm. There is therefore no significant cumulative effect upon either receptor group in terms of the EIA Regulations.

14.5 CUMULATIVE EFFECTS WITH MORL

14.5.1 CUMULATIVE EFFECTS UPON REGIONAL SEASCAPE UNITS AND SEASCAPE CHARACTER TYPES: MORL WITH BEATRICE

14.5.1.1 Remote High Cliffs – Duncansby Head to Skirza Head RSU

40. The MORL site lies beyond 35 km from the landward extents of this unit and just under 20km from the sea extents. Whilst potentially visible from the outer sea extents, overall it will not be a defining visual characteristic of this RSU. As determined by the main assessment Beatrice will also be a considerable distance from the RSU and, although potentially noticeable, the key characteristics of the RSU will remain largely unchanged. Therefore the magnitude of cumulative effects is judged as Negligible. As the sensitivity of this RSU to the proposed change is considered High, the significance of cumulative effect on the Duncansby Head to Skirza Head RSU is assessed as Negligible. This is not a significant cumulative effect in terms of the EIA Regulations.

14.5.1.2 Rocky Coastline – Skirza Head to Keiss RSU

41. The MORL site will lie just over 30 km from the landward extents and just under 10km from the outer sea extents of this unit. The ZTV illustrates that visibility of the MORL site on land will be intermittent but it will be a noticeable element from the sea extents. The presence of Beatrice at a slightly closer distance to MORL will increase the perception of wind farms within the characteristic sea views. However, the distance of both wind farms from this RSU, and the orientation of the coastline will limit the cumulative effects so that the baseline situation remains largely unchanged.

42. It was therefore judged that the magnitude of cumulative impact on the character of this RSU is low. As the sensitivity to the proposed change is considered medium, the significance of effect on the Skirza Head to Keiss RSU was assessed as Moderate-Minor. This is not a significant cumulative effect in terms of the EIA Regulations.

14.5.1.3 Deposition Coastline – Sinclair's Bay RSU

43. It was judged in the main assessment that Beatrice would have only negligible magnitude of impact and significance of effect upon this RSU due to its enclosed nature. Therefore it can be similarly judged that there would be Negligible cumulative magnitude of impact and significance of effects upon this Medium sensitivity RSU arising from the Wind Farm with MORL. There is therefore no significant cumulative effect in terms of the EIA Regulations.

14.5.1.4 Narrow Coastal Shelf – Berriedale to Helmsdale RSU

44. The MORL site lies approximately 38 km at closest to the land extent and 10 km from the outer sea extents of this Medium – Low sensitivity RSU. It therefore will

not be a prominent feature from within the majority of the RSU and will be a minor element in views towards the east. The addition of Beatrice at 30 km from land and approximately 10 km from the outer sea extents will potentially increase the number of turbines visible from some areas of the RSU but overall it will only constitute a minor alteration to the baseline situation. Therefore it is judged that the magnitude of cumulative impact will be Low. As the sensitivity of the RSU to the proposed change is considered Medium to Low, the significance of cumulative effect on the Berriedale to Helmsdale RSU is assessed as Moderate-Minor to Minor. This is not a significant cumulative effect in terms of the EIA Regulations.

14.5.2 INSHORE WATERS SEASCAPE CHARACTER TYPE

45. Both the MORL and Beatrice wind farms will lie within this seascape character type. On the premise that the MORL Wind Farm is existing, it will be a defining and dominant element within the seascape. The addition of the smaller the Wind Farm, whilst increasing the number of turbines, will not significantly change this characteristic. It is therefore judged that the magnitude of cumulative impact on the character of the Inshore Waters arising from Wind Farm is Low. As the sensitivity to the proposed change is judged to be Low, the significance of cumulative effect on this seascape character type is assessed as Minor. This is not a significant cumulative effect in terms of the EIA Regulations.

14.5.3 DEEP SEA FISHING AND SHIPPING SEASCAPE CHARACTER TYPE.

46. The MORL site lies approximately 5 km from the western edge of this seascape character type and will become a visual characteristic in views from within the closer areas of this seascape character type. The addition of, to be located slightly further west from MORL, will not introduce a new element into the character type but will potentially increase the perception of turbines as a visual characteristic. However, this will only be for a small proportion of the overall seascape type. It is therefore judged that the magnitude of cumulative impact upon the seascape character type is locally Low. As the sensitivity to the proposed change is considered Low, the significance of effect on the character of the Deep Sea Fishing and Shipping SCT is assessed as Minor locally but reduces markedly with distance as its visual influence diminishes such that for much of the type it will be Negligible. Neither of these constitute a significant cumulative effect in terms of the EIA Regulations.

14.5.4 CUMULATIVE VIEWPOINT ASSESSMENT: MORL WITH BEATRICE

14.5.4.1 Viewpoint 1 – Duncansby Head

47. The closest Beatrice turbine lies at 36.74 km from this viewpoint whilst the MORL Wind Farm lies approximately 39 km at its closest. At these distances, it is evident from the wireframe that the MORL site will be barely discernible. The addition of the Wind Farm into the available view overlaps with the central and western extents of the MORL site extending the turbines that are potentially visible further to the west. It is unlikely that the MORL site will be easily visible at this viewpoint even on clear days. At only a slightly closer distance, as determined in the main

assessment, the inclusion of the Wind Farm will be only a minor to very minor alteration to the view.

48. It is therefore judged that the magnitude of cumulative impact is Negligible. When combined with the High sensitivity to the type of change proposed of the key receptor group of visitors, the significance of effect is assessed to be Negligible. This is not a significant cumulative effect in terms of the EIA Regulations.

14.5.4.2 Viewpoint 2 – Keiss Pier (from local road leading to Pier)(Figure 14.54)

49. The closest Beatrice turbine lies at 27.35 km from this viewpoint. The MORL Wind Farm lies approximately 31 km at closest.

50. The MORL Wind Farm extends from the headland with a stacking pattern within its northern extents visible. The Wind Farm turbines appear approximately double the height and within a regularly spaced arrangement in front of MORL apart from 2 turbines to the north which sit apart and will appear between the MORL turbines. Blade tips will be potentially visible above the headland to the south but as the main assessment photomontage illustrates, these are unlikely to be visible due to land cover. The blade tips of MORL will be barely visible in contrast to the Wind Farm turbines although with overlapping of turbine columns there is the potential for the combined density to increase the prominence. However, overall, as there is only a small proportion of both schemes visible within the same sector of the view, and at a considerable distance from the viewpoint, it was judged that the magnitude of cumulative impact is low to negligible. When combined with a range of high - medium and low sensitivities to the type of change proposed on the key receptor groups of residents and workers respectively, the significance of effect was assessed to be Moderate to Negligible for residents to Moderate-Minor to Minor to Negligible for workers. Neither of these constitute a significant cumulative effect in terms of the EIA Regulations.

14.5.4.3 Viewpoint 3 – Sortat

51. As it was determined in the main assessment that the Wind Farm would have negligible to no magnitude of impact upon the key receptors of Residents (High sensitivity) at this viewpoint, and given that the wireframe shows no visibility of the MORL site, it can be judged that there will be no cumulative effects arising.

14.5.4.4 Viewpoint 11: Scaraben

52. The closest Beatrice Wind Farm turbine lies at 33.06 km from this viewpoint whilst the MORL Wind Farm lies approximately 42 km at its closest.

53. From this elevated viewpoint the MORL Wind Farm will be potentially visible along the horizon. The Beatrice turbines occupy a visibly larger area of sea but lie below the horizon line. The two sites do not discernibly overlap. At over 40 km away the MORL Wind Farm will bring about a very minor alteration to the overall expansive view. The addition of the Wind Farm increases the extent of potential turbines within the view but it is judged to bring about more individual effects rather than cumulative effects. Therefore the magnitude of cumulative effect is judged as Negligible. As the key receptor group of walkers have a High to Medium

sensitivity to the proposed change, the significance of effect is assessed to be Negligible. This is not a significant cumulative effect in terms of the EIA Regulations.

14.5.4.5 Viewpoint 12: Navidale

54. The closest Beatrice turbine lies at 38.06 km from this viewpoint whilst the MORL site lies approximately 42 km at its closest. The wireframe shows that the MORL turbines, albeit some distance away, could potentially be visible across a large proportion of the sea horizon within the view. The addition of Beatrice extends the turbines across the horizon towards the north, overlapping with approximately a third of the MORL Wind Farm. Within this overlap, the two sets of turbines merge to some degree although the stacked lines of Beatrice are apparent in front of MORL.

55. At these distances, whilst blade tips and movement may not be visible, the extents of the wind farms across the horizon may be discernible on a clear day. The addition of Beatrice increases the potential extent of turbines by approximately a quarter and given its closer proximity to the prominent land form in the north which leads the eye towards the sea, the magnitude of cumulative impact is judged as Low.

56. As the key receptor groups of Residents and travellers have a High and Medium to Low sensitivity to the type of change proposed respectively, the significance of cumulative effect with MORL is assessed to be Moderate for Residents and Moderate-Minor to Minor for Travellers. Neither of these constitute a significant cumulative effect in terms of the EIA Regulations.

14.5.4.6 Viewpoint 13: Catchory

57. As it was determined in the main assessment that Wind Farm would have negligible magnitude of impact and significance of effect upon the key receptors of Residents (High sensitivity) and workers (Medium to Low sensitivity) at this viewpoint, and given that the wireframe shows no visibility of the MORL Wind Farm, it can be judged that there will be no cumulative effects. There is therefore no significant cumulative effect in terms of the EIA Regulations.

THIS PAGE IS INTENTIONALLY BLANK

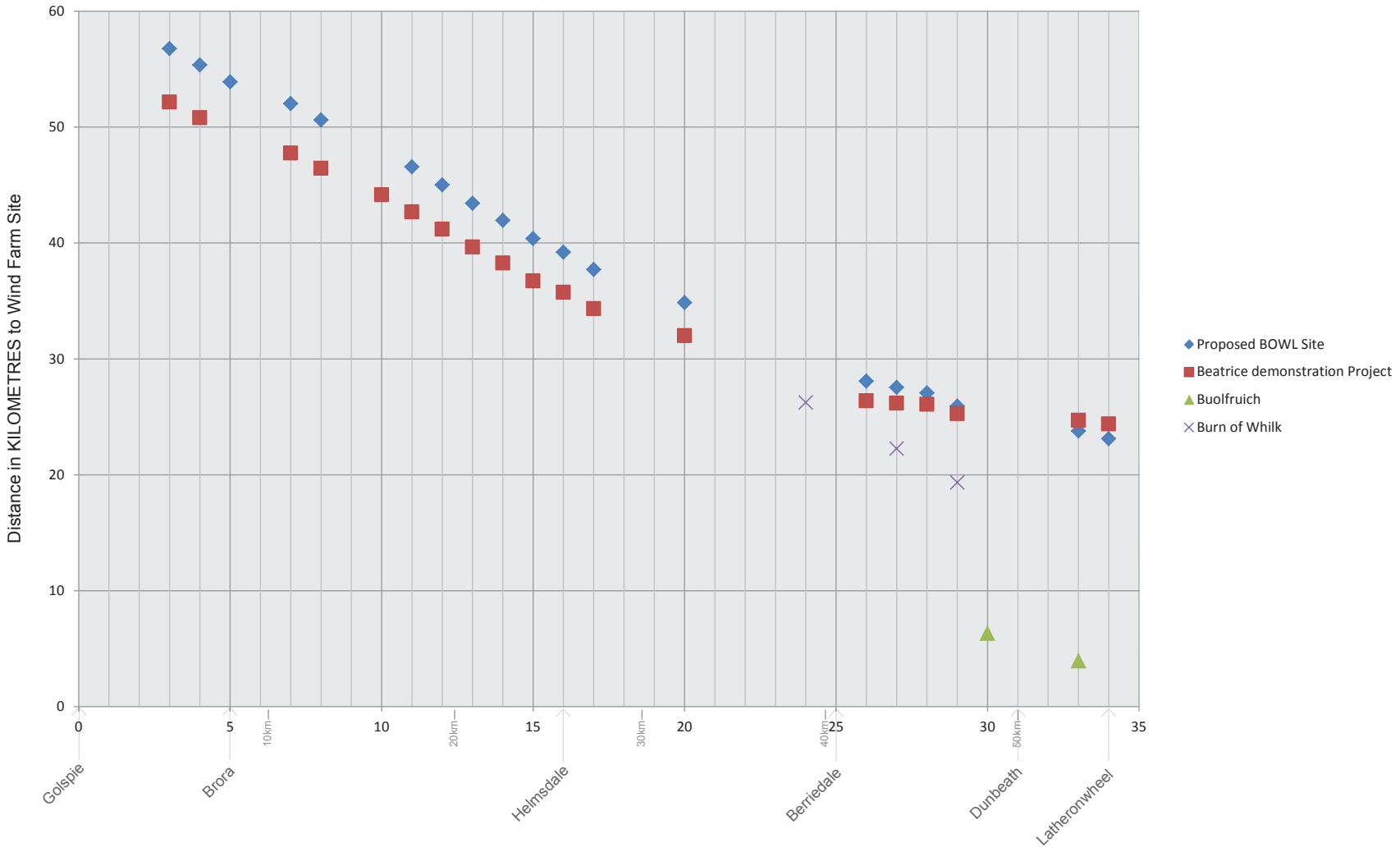
CUMULATIVE SEQUENTIAL ROAD GRAPHS

THIS PAGE IS INTENTIONALLY BLANK

BEATRICE OFFSHORE WIND FARM - CUMULATIVE SEQUENTIAL ROAD ANALYSIS GRAPHS

EXISTING AND CONSENTED WIND FARMS

A9(S)

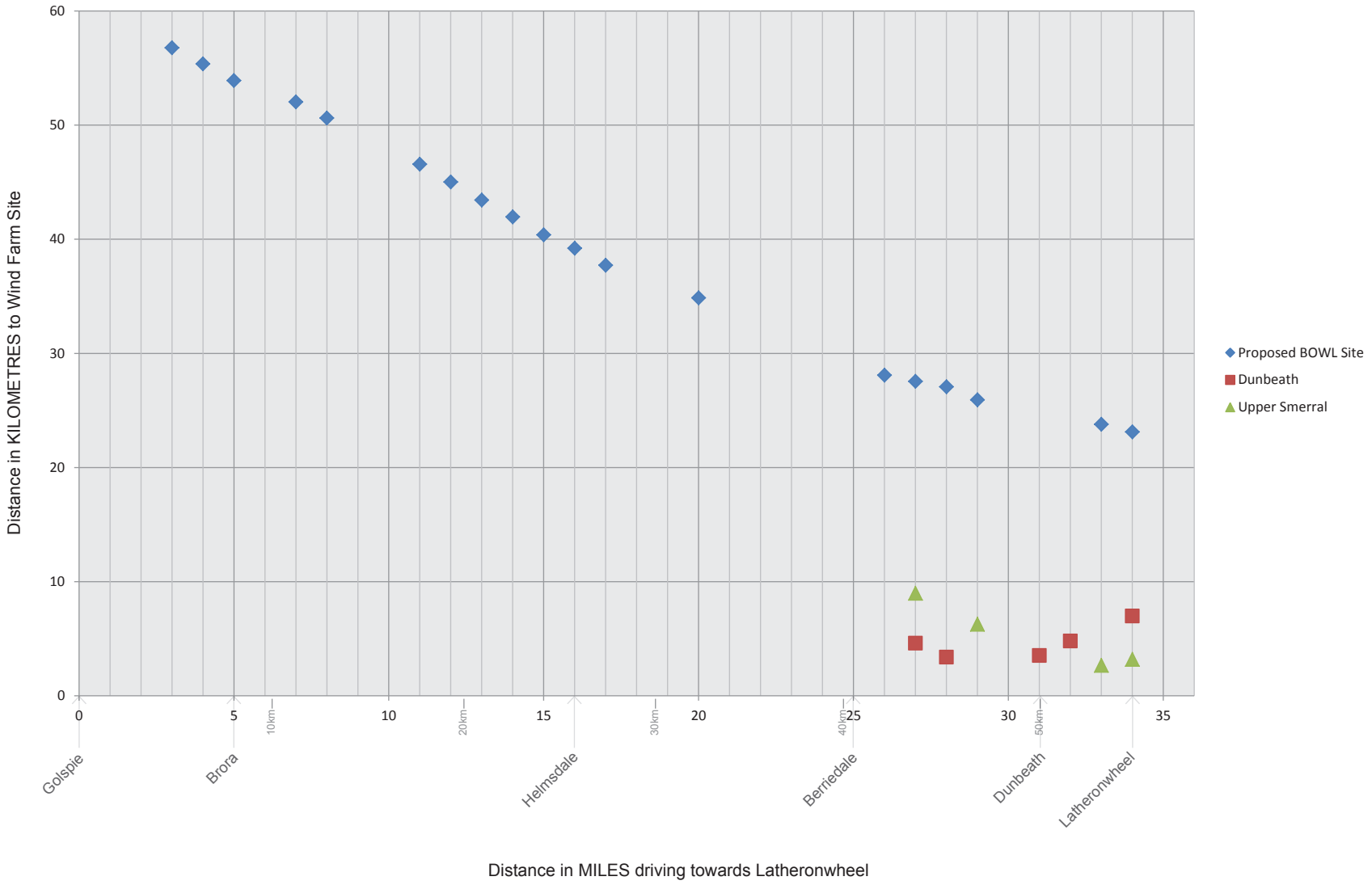


GRAPH 01

BEATRICE OFFSHORE WIND FARM - CUMULATIVE SEQUENTIAL ROAD ANALYSIS GRAPHS

IN-PLANNING WIND FARMS

A9(S)

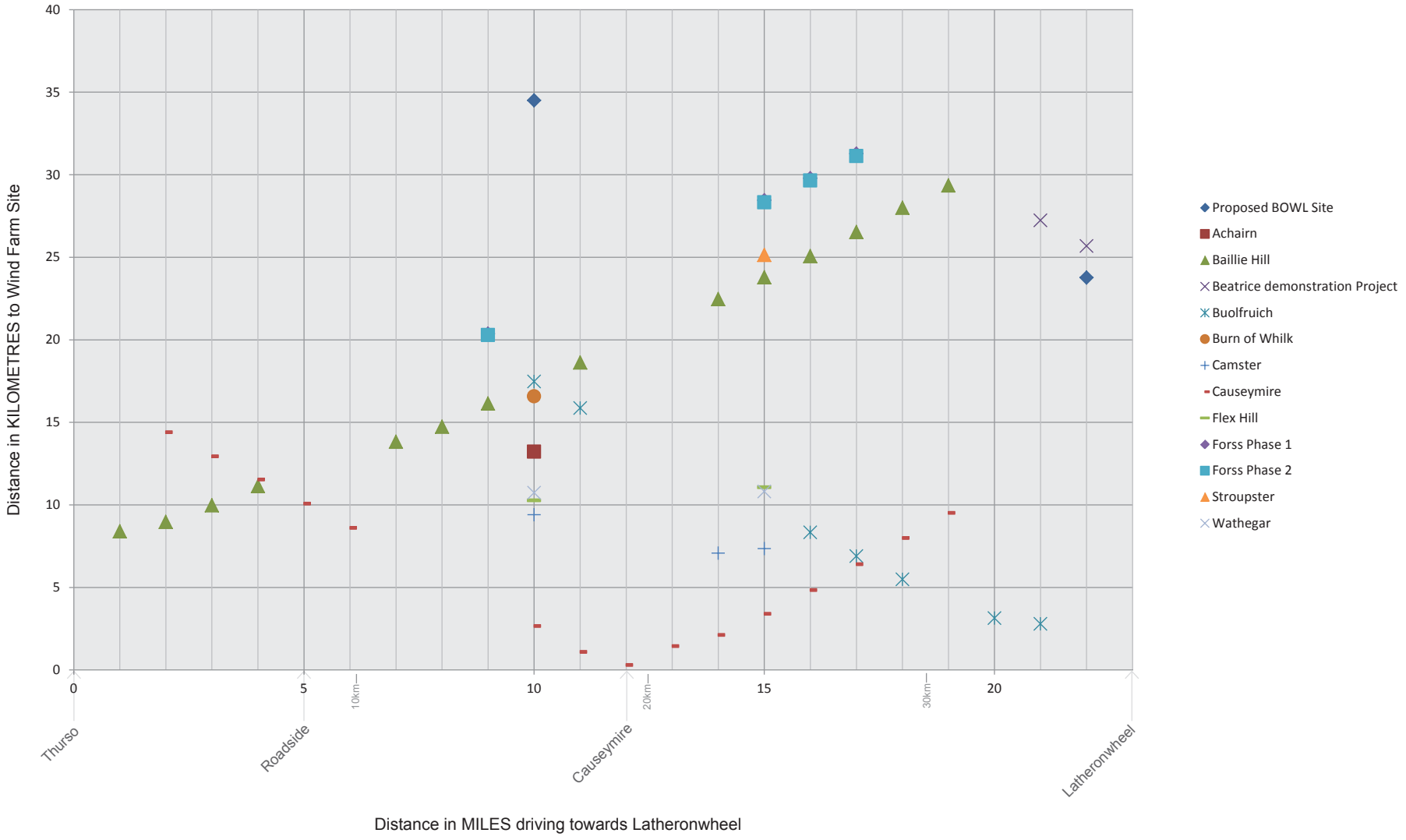


GRAPH 02

BEATRICE OFFSHORE WIND FARM - CUMULATIVE SEQUENTIAL ROAD ANALYSIS GRAPHS

EXISTING AND CONSENTED WIND FARMS

A9(N)

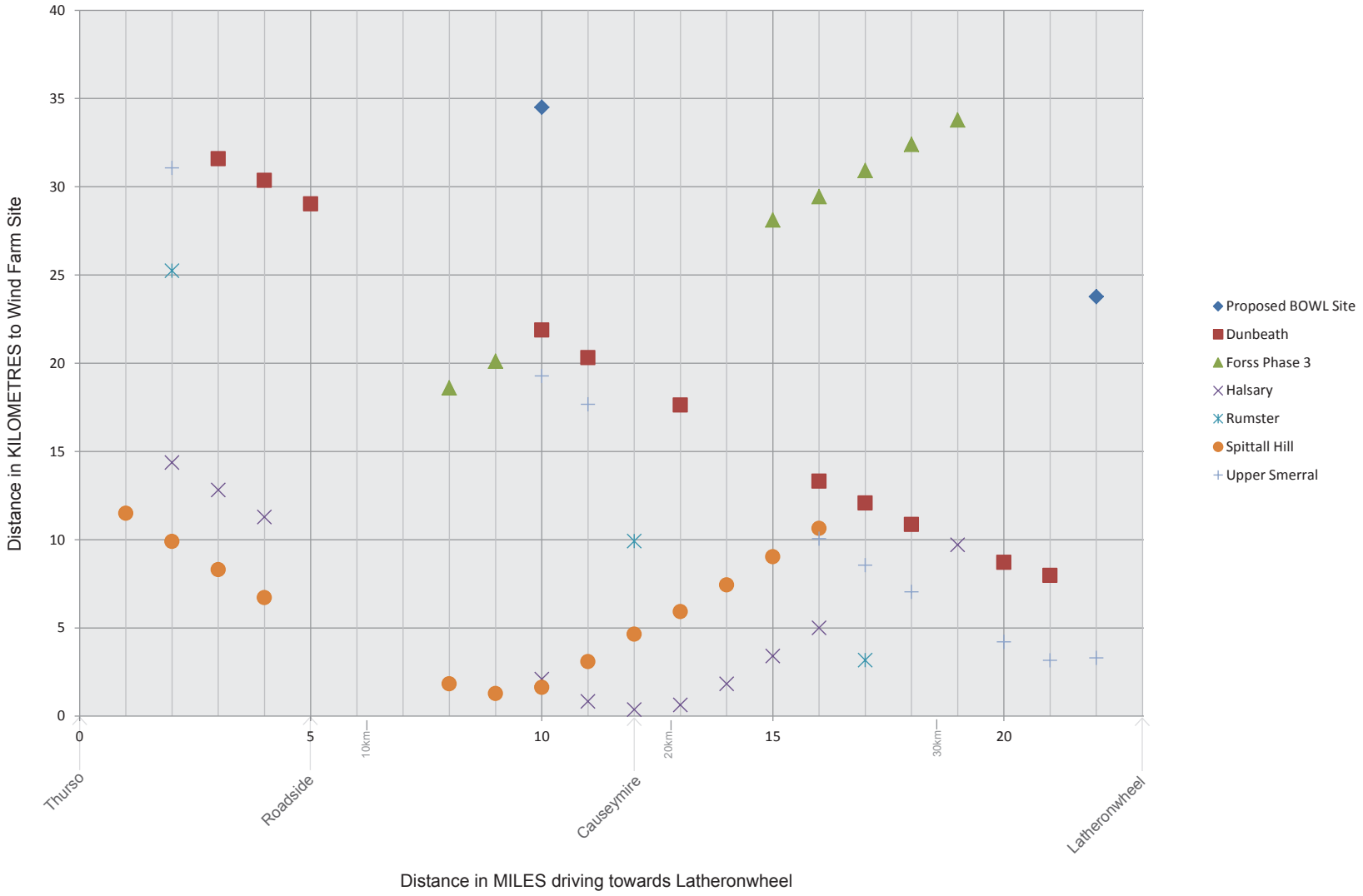


GRAPH 03

BEATRICE OFFSHORE WIND FARM - CUMULATIVE SEQUENTIAL ROAD ANALYSIS GRAPHS

IN-PLANNING WIND FARMS

A9(N)

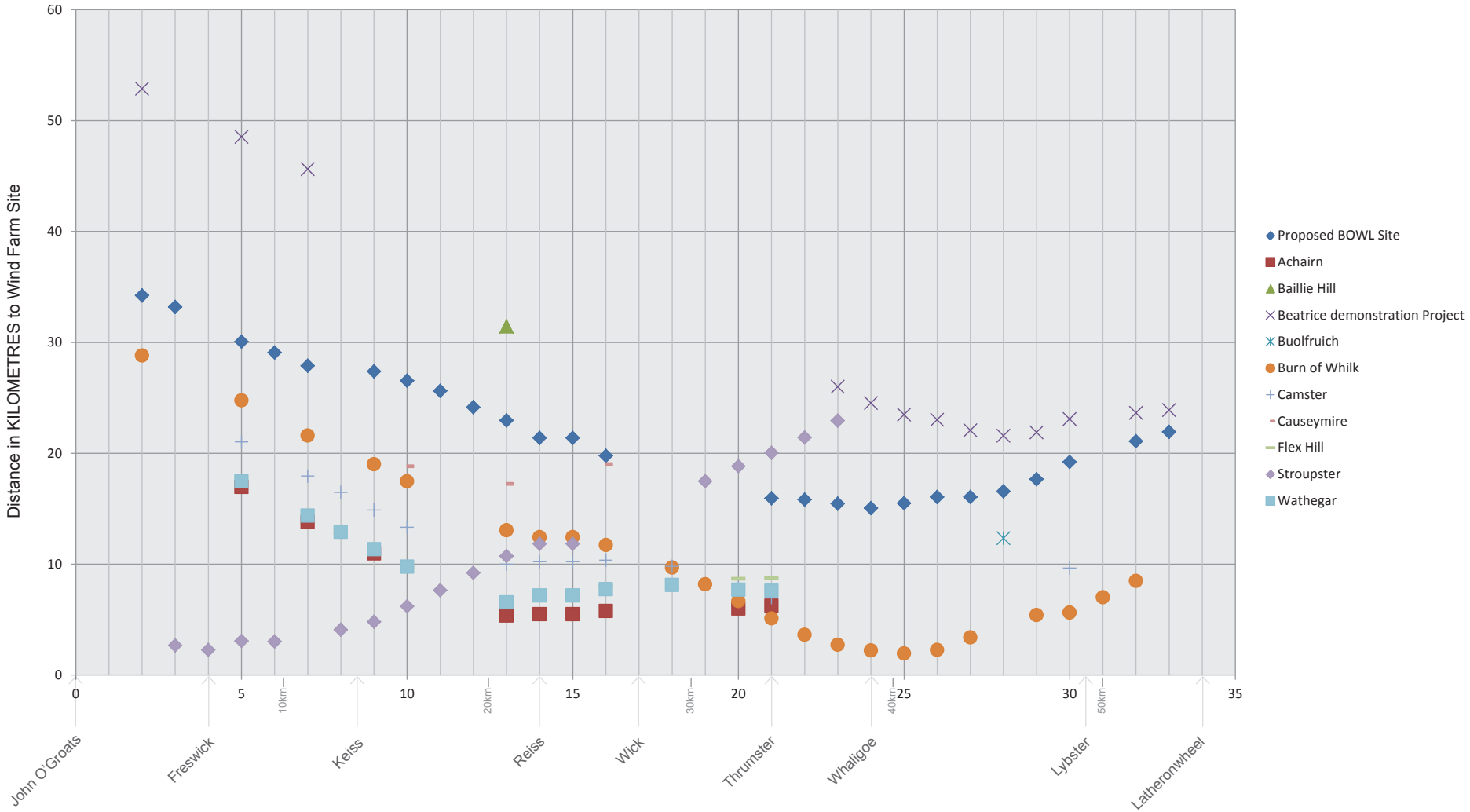


GRAPH 04

BEATRICE OFFSHORE WIND FARM - CUMULATIVE SEQUENTIAL ROAD ANALYSIS GRAPHS

A99

EXISTING AND CONSENTED WIND FARMS

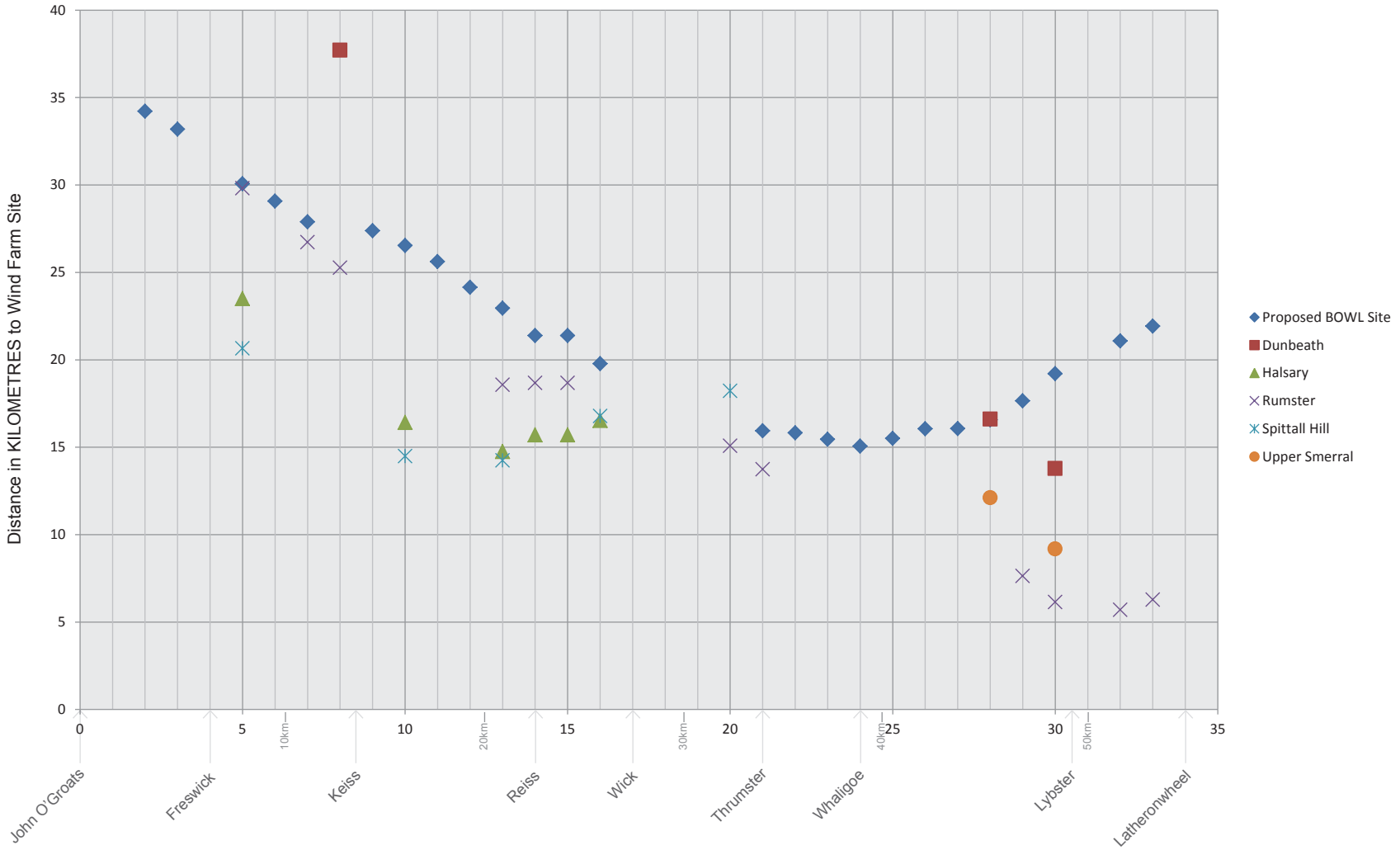


GRAPH 05

BEATRICE OFFSHORE WIND FARM - CUMULATIVE SEQUENTIAL ROAD ANALYSIS GRAPHS

IN-PLANNING WIND FARMS

A99

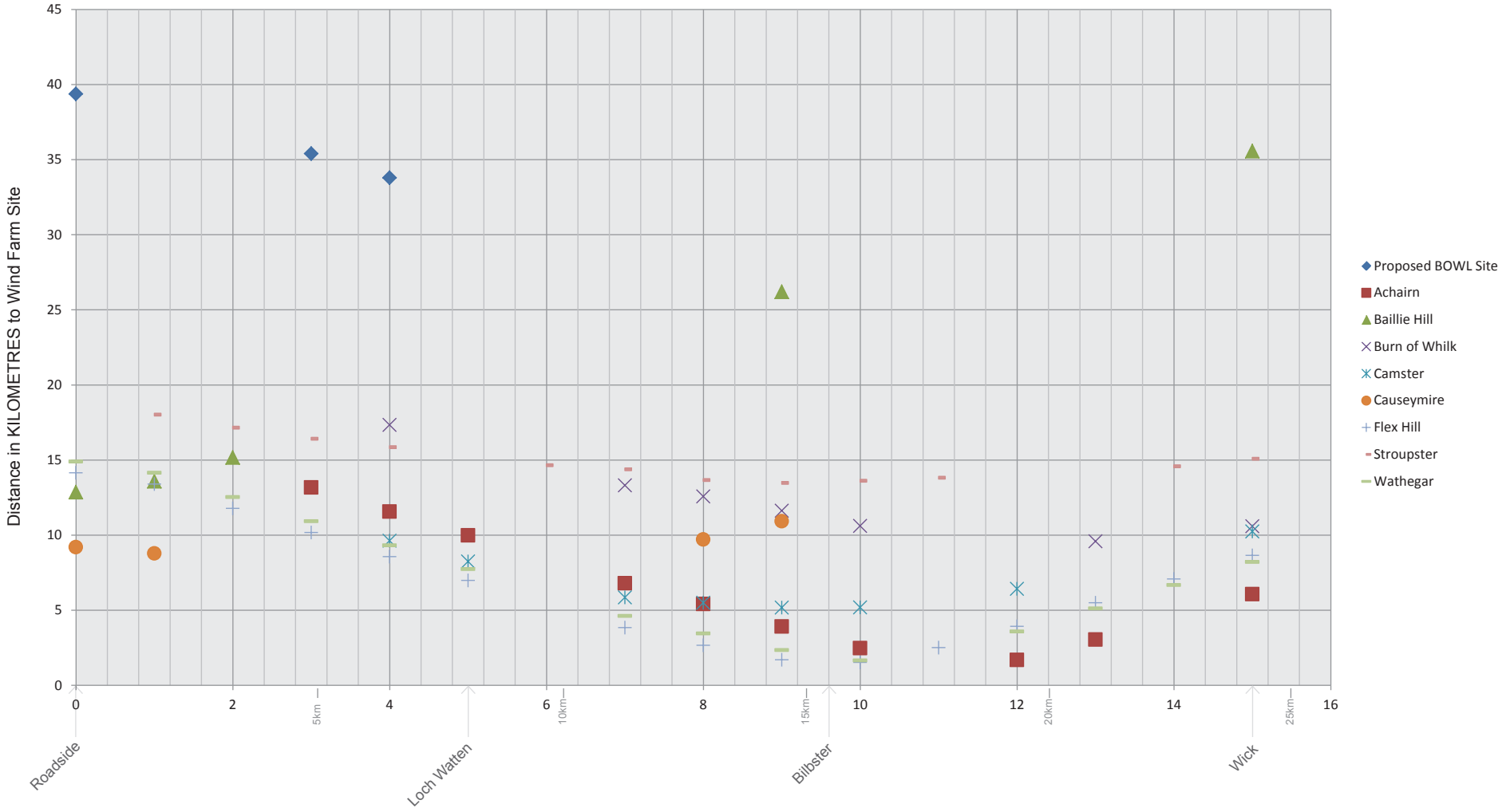


GRAPH 06

BEATRICE OFFSHORE WIND FARM - CUMULATIVE SEQUENTIAL ROAD ANALYSIS GRAPHS

A882

EXISTING AND CONSENTED WIND FARMS

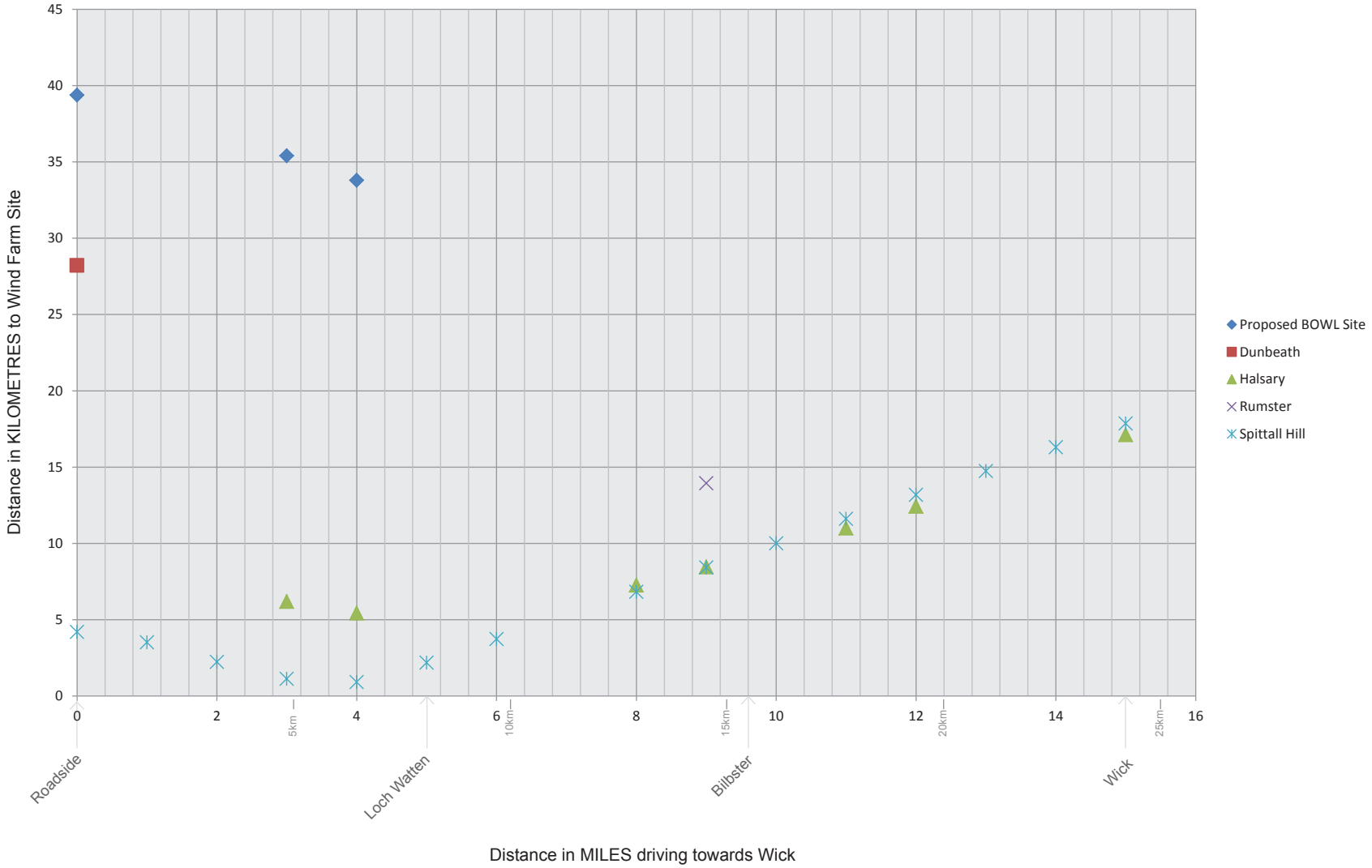


GRAPH 07

BEATRICE OFFSHORE WIND FARM - CUMULATIVE SEQUENTIAL ROAD ANALYSIS GRAPHS

IN-PLANNING WIND FARMS

A882



GRAPH 08

APPENDIX 14.9: GLOSSARY

- *Cumulative effects.* The summation of effects that result from changes caused by a development in conjunction with other past, present or reasonably foreseeable actions.
- *Indirect effects.* Effects on the environment, which are not a direct result of the development but are often produced away from it or as a result of a complex pathway. Sometimes referred to as secondary impacts.
- *Landscape character type.* A landscape type will have broadly similar patterns of geology, landform, soils, vegetation, land use, settlement and field pattern discernible in maps and field survey records.
- *Landscape effects.* Change in the elements, characteristics, character and qualities of the landscape as a result of development.
- *Landscape character* means the distinct and recognisable pattern of elements that occur consistently in a particular type of landscape, and how these are perceived by people. It reflects particular combinations of geology, landform, soils, vegetation, land use and human settlement. It creates the particular sense of place of different areas of the landscape.[1]
- *Landscape quality (or condition)* is based on judgements about the physical state of the landscape, and about its intactness, from visual, functional, and ecological perspectives. It also reflects the state of repair of individual features and elements which make up the character in any one place.
- *Landscape value* is concerned with the relative value that is attached to different landscapes. In a policy context the usual basis for recognising certain highly valued landscapes is through the application of a local or national landscape designation. Yet a landscape may be valued by communities for many different reasons without any formal designation.
- *Landscape capacity* refers to the degree to which a particular landscape character type or area is able to accommodate change without significant effects on its character, or overall change of landscape character type. Capacity is likely to vary according to the type and nature of change being proposed. [1]
- *Landscape sensitivity.* The extent to which a landscape can accept change of a particular type and scale without material effects on its character.
- *Magnitude.* A combination of the scale, extent and duration of an effect.
- *Mitigation.* Measures, including any process, activity or design to avoid, reduce, remedy or compensate for adverse seascape, landscape and visual effects of a development project.
- *Receptor.* Physical seascape or landscape resource, special interest or viewer group that will experience an effect.
- *Seascape Capacity* refers to the degree to which a particular seascape character type or unit is able to accommodate change without significant effects on its character, or overall change of seascape character type/unit. Capacity is likely to vary according to the type and nature of change being proposed.
- *Seascape Character* means the distinct and recognisable pattern of elements that occur consistently in a particular type of seascape, and how these are perceived by people.

- *Seascape Character Type.* A seascape type will have broadly similar patterns of information discernible in maps and field survey records.
- *Seascape Effects*. Change in the elements, characteristics, character and qualities of the seascape as a result of development.
- *Seascape Unit*. A unit of land, coastline and sea defined by a distinct and recognisable pattern of elements connected by their related intervisibility.
- *Visual amenity.* The value of a particular area or view in terms of what is seen.
- *Visual effect.* Change in the appearance of the seascape or landscape as a result of development.
- *Visual envelope.* Extent of potential visibility to or from a specific area or feature.
- *Zone of theoretical visibility (ZTV).* The area of seascape and/or landscape from within which a proposed development may theoretically be visible and thus have a potential effect upon visual receptors.