

# Aberdeen Offshore Wind Farm Limited

Design Statement (Draft)

Confidentiality class: None (C1)

**Design Statement pursuant to discharge of Condition 14.**

Aberdeen Wind Offshore Wind Farm Limited (AOWFL) is an established legal entity owned by Vattenfall Wind Power Ltd (VWPL) (75 %) and Aberdeen Renewable Energy Group (AREG) (25 %)

The Scottish Ministers granted consent under Section 36 of the Electricity Act 1989 to AOWFL to construct and operate the European Offshore Wind Farm Deployment Centre (also known as the Aberdeen Offshore Wind Farm) in March 2013. Condition 14 of the Section 36 consent requires that prior to the commencement of the development a detailed Design Statement be submitted to the Scottish Ministers.

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# 1. Introduction

On the 26 March 2013 Aberdeen Offshore Wind Farm Limited (the Company) was granted consent under Section 36 of the Electricity Act 1989 by the Scottish Ministers to construct and operate the European Offshore Wind Farm Deployment Centre (the Development). Condition 14 of the consent requires that prior to the commencement of the development a detailed Design Statement (DS) must be submitted to the Scottish Ministers for their written approval.

The Scottish Natural Heritage (SNH) Advice Note (February 2016) on offshore wind farm design statements has informed the preparation of this DS.

Condition 14 requires that the DS must provide guiding principles for the deployment of the wind turbines. Condition 14 requires that the DS must detail the following:

- a) *Layout location for each phase and each turbine;*
- b) *Turbine height, finishes, blade diameter and rotation speed across each phase, row and individual turbine location;*
- c) *Lighting requirements (navigation and aviation) for each turbine/row, or as the case may be, phase including any anemometer mast; and*
- d) *Further detailed assessment of visual impacts to inform the detailed layout and design of each location and phase of the deployment centre from selected viewpoints to be agreed with the Scottish Ministers and any such other advisors as may be required at their discretion.*

When setting Condition 14 the decision maker will have had regard to the possibility that the Company might deploy the Development in several phases comprising wind turbines with differing physical characteristics.

The Company has since decided to deploy only one type of wind turbine across the eleven consented locations in a single phase. Thus, the deployment design process is noticeably simplified.

The following sections address the requirements of Condition 14.

## 2. Wind Turbine Location

Table 1 below sets out the wind turbine locations. (Reference: WGS84 UTMZ30N, Layout: LABER041). Drawing Number 61290-2AG-700-001 (in appendix 1) shows the wind turbine location described in Table 1. The locations remain as consented.

Turbine ID	X [m]	Y [m]
B01	559820.01	6340967.387
A01	559719.179	6341842.014
A02	559619.353	6342716.654
B02	560480.734	6341400.14
B03	560374.167	6342324.689
A03	560268.603	6343249.254
B04	561223.68	6341887.108
B05	561111.288	6342867.58
A04	560998.882	6343849.052
B06	561930.522	6343471.684
A05	561811.205	6344515.064

Table 1 Wind turbine Locations

The micro-siting provision in the consent is not considered to be a significant variable in the context of the DS.

## 3. Wind Turbine Specification

### 3.1. Dimensions

All 11 wind turbines will have a maximum blade tip height of 190.5 m above lowest astronomical tide (LAT).

All 11 wind turbines will have a hub height of 108.5 m above LAT.

All 11 wind turbines will have a rotor diameter of 164 m

### 3.2. Foundation Structure

All 11 wind turbine tower's will be supported on a platform and lattice structure (jacket) that is attached to the seabed. The structure will have a maximum above water footprint of 21 m x 21 m and rising to a maximum 32.6 m above LAT.

### 3.3. Paint Finish

All 11 wind turbine towers, nacelles and blades will be painted light grey. All the supporting platform and lattice structures will be painted yellow from highest astronomical tide (HAT) up to a minimum height of 15 m above HAT.

### 3.4. Blade Rotation Speed

All 11 wind turbines will rotate in the same direction with a rotation speed of up to 13.98 rpm.

## 4. Marine Navigation Lighting

### 4.1. Marine Lighting

The corners and other significant points around the periphery of the wind farm will be marked as Significant Peripheral Structures (SPS).

The SPS are locations A02, A05, B01, B04, and B06 .

At each location yellow lights will flash character FI Y 5s (once every 5 seconds) with 360 degree coverage at a nominal range of 5 nautical miles (nm). With the exception of wind turbine A02 (the closest to shore) which will have a nominal range of 2 nm.

All marine lighting will be located at least 6 m above HAT and below the lowest arc of the wind turbine blades. Suitable lighting will be provided to ensure the identification panels are visible in darkness and the lighting shall be positioned to avoid interference with other navigational lighting on the structure.

### 4.2. Marine Fog Horn

A foghorn and detector will be provided on locations A05, B01 and B04. Each foghorn will have an audible range of 2 nm and a blast character "Uniform" (U) every 30 seconds with a minimum short blast duration of 0.75s.

## 5. Aviation Lighting

All 11 wind turbines will have aviation lighting fitted to the top of the nacelle in accordance with the requirements set out in Civil Aviation Publication (CAP) 674. The relevant article in CAP 674 requires a medium intensity (2000 candela) steady red light mounted on top of the nacelle.

## 6. Visual Appraisal and Layout Design

Paragraph d) of Condition 14 requires that the DS should provide:

- d) *Further detailed assessment of visual impacts to inform the detailed layout and design of each location and phase of the deployment centre from selected viewpoints to be agreed with the Scottish Ministers and any such other advisors as may be required at their discretion.*

The decision to deploy only one wind turbine type in a single phase has noticeably simplified the visual appraisal and design process.

The visual appraisal adheres to relevant guidance.

LDA Design prepared this section and it was approved by Mr William Wheeler, a Director at LDA Design and a qualified landscape architect with over 15 years' relevant offshore experience.

### 6.1. Guidance Documents

The following documents have informed the visual appraisal:

- SNH advice note on Offshore Wind Farm Design Statements (SNH, February 2016);
- Design Statement for the Beatrice Offshore Wind Farm in 2015;
- Visual Representation of Wind Farms, version 2.' (SNH, December 2014);
- Siting and Designing Wind Farms in the Landscape, version 2 (SNH, May 2014);
- Offshore Renewables – guidance on assessing the impact on coastal landscape and seascape (SNH, 2012); and
- Planning Advice Note 68 – Design Statements

### 6.2. Consultation

The Scottish Ministers, acting through Marine Scotland (MS), specified the following advisors with respect to the visual assessment:

- SNH;
- Aberdeenshire Council (AC); and
- Aberdeen City Council (ACC).

LDA Design wrote to SNH, AC and ACC in December 2015 proposing a methodology for the DS visual assessment, which included nine viewpoints selected from the Environmental Statement (ES).

A summary of the consultees' responses to the proposed DS visual assessment methodology and viewpoints is given below:

- SNH agreed to the proposed methodology and viewpoint selection and provided a DS guidance note. SNH also supported the provision of new viewpoint photography and recommended that the visualisations enabled comparison with those within the ES.
- ACC agreed to the proposed methodology and viewpoint selection, and highlighted the sensitivities of the Nigg Bay area.
- AC agreed with the proposed methodology and viewpoint selection. In addition, AC suggested a further two viewpoints at Bennachie and the Menie Estate.

LDA Design reviewed the additional viewpoints suggested by AC and concluded that they would not add to the narrative of the DS. In summary: Bennachie lies 35 km from the scheme and the original assessment for this location was for low-negligible effects; and, the Menie Estate is private land and viewpoints 01 and 09 are in close proximity and are therefore representative of views from this area.

The agreed viewpoints for this DS are therefore:

- 01 - Balmedie Beach
- 02 - A90 (Harehill)

- 04 – B999 Whitecairns
- 05 – Aberdeen Beach
- 07 – Torry Battery
- 09 – Forvie Nature Reserve
- 12 – Kincorth Hill
- 13 – Udny Station
- 15 – Brimmond Hill

For ease of cross referencing the viewpoint numbering is consistent with the ES (in line with the SNH recommendation).

The DS visual appraisal accords with the consultation responses.

## 6.3. Design Process

The decision taken by AOWFL to deploy the Development in one phase of 11 similar wind turbines, with similar foundation design has noticeably simplified the design process element of the DS.

The wind turbine parameters are within the ambit of the consent (as set out in Table 2).

Table 2: Wind turbine specification comparison

Assessment	No. of Wind Turbines	Hub height	Blade-tip height
Development Wind Turbines	11	108.5 m	190.5 m
Consent Parameter	11	120 m	198.5 m

In summary AOWFL's decision to deploy 11 similar wind turbines and foundations has mitigated the need to carry out an iterative visual design process.

The required foundation type is primarily prescribed by known seabed conditions . Jacket foundations that are visible above sea level are required to be painted yellow for marine safety reasons.

## 6.4. Visualisation Material

The supporting figures and visualisations have been modelled and generated using the following design specifications:

- Layout of 11 wind turbines
- 164 m rotor diameter
- 190.5 m turbine blade tip height above LAT
- 108.5m turbine hub height above LAT; and
- Jacket substructures with an above water footprint of 21 m x 21 m rising to 32.6 m above LAT

Supporting figures and visualisations are included in Appendices 1.

Appendix 1 includes the following figures:

- Figure 1 – Site, wind turbine and viewpoint location; and
- Figure 2 to Figure 10 - Visualisation material (wire frame and photomontage).

All the figures provided have been prepared in accordance with the requirements of SNH 2014 guidance and for each viewpoint there are a set of three figures provided as follows:

- Fig A: New baseline panorama photograph of the existing view and a wireline of the wind farm (both 90° angle of view)
- Fig B: Panorama photomontage of the wind farm (53.5° angle of view).
- Fig C: Coloured render overlay comparison of the consented scheme and the final scheme (53.5°angle of view).

## 6.5. Viewpoint Design Appraisal

### 6.5.1 Introduction

The following section considers the design attributes of the Development from the nine agreed viewpoints.

The attributes considered within the tables below have been drawn from the guidance ‘*Offshore Renewables – guidance on assessing the impact on coastal landscape and seascape* (SNH, March 2012)’ in particular chapter 5, paragraphs 5.5 and 5.6 under the sub-heading ‘*Characteristics of Offshore Windfarms*’. These paragraphs are reproduced below for ease of reference.

Paragraph 5.5 states: *SNH’s Siting and Designing windfarms in the landscape explores layout and design issues in relation to onshore windfarms. Basic design principles are relevant:*

- *Turbine form, design, size and colour,*
- *Turbine layout/array,*
- *Lighting,*
- *Turbine grouping, relationship to scale-indicators and focal points, especially when viewed in relation to land – be it an island, coastline or backdrop across a firth.*

Paragraph 5.6 states: *For offshore windfarms additional considerations include:*

- *How they relate to the coast, their position within a channel, or firth*
- *How the height of turbines relates to other coastal elements or features, for example power station chimneys, prominent focal hills or mountains*
- *Whether they will be back clothed by sea or land*
- *Their scale if positioned within a firth on a major sea route, or on a tourist/transport route*
- *How they relate, as a new focal feature, to their surroundings – for example, by replacing the value of existing landmarks.*
- *How they will be viewed from settlements on the coast, as well as those that enjoy an ‘outer’ marine backcloth.*

### 6.5.2 Summary of Main Development Design Considerations

The appraisal of wind turbine form, design, size and colour is appropriate to all viewpoints. These specification are taken from section 3 above. The similarity of all 11 wind turbines and foundations will ensure a unified and coherent appearance.

The light grey colour for the wind turbines is appropriate from a design perspective and works well in changing light conditions.

The jacket foundations will be discernible elements extending out from the wind turbine column due to their yellow colour and extent above the sea level.

The lighting proposals reflect the statutory marine and aviation requirements for navigational and aviation safety. Please refer to sections 4 and 5 above.

### 6.5.3 Viewpoint Appraisal

#### Viewpoint 01 – Balmedie Beach (3.5 km from nearest wind turbine) Figures 2A-2C

	Design Attribute	Design Changes, Constraints and Appraisal
1	Wind turbine layout and grouping	The wind turbines will appear as one group in a relatively informal arrangement with two wind turbines overlapping.
2	Scale-indicators and focal points	There are no focal points within the view although views along the coast to Aberdeen and to the north (beyond the panoramas shown) anchor the view. Large ships within the offshore anchor area are a scale indicator albeit transient.
3	Contextual relationship with coast	The wind turbines are clearly located within the sea and sited close to the coast but separate to any coastal features.
4	Height relationship with coastal elements and features	The wind turbines appear across the majority of the sea view and will become the focal point out at sea, separate to any coastal features.

	<b>Design Attribute</b>	<b>Design Changes, Constraints and Appraisal</b>
5	Backclothing	The wind turbines will be seen against an active marine backcloth.
6	Scale of wind turbines	The wind turbines will be prominent elements within the sea view where there are few features aside from passing and anchored boats to provide any ready scale comparison. The informal arrangement and uniform appearance of the wind turbines relate comfortably to the expansive seaward views and the simple receiving environment within which they are located.
7	Relationship to surroundings	The wind turbines relate well to the simple receiving environment of expansive sea and sky and a broad simple coastal edge.
8	Visual appearance from coastal settlements	The wind farm will be a new feature within the close seascape visible from the coastal settlements. The uniform appearance of the wind turbines and layout will give the wind farm a visually cohesive character that sits comfortably within the seascape.

**Viewpoint 02 – A90 (Harehill) (4.4 km to nearest wind turbine)  
Figures 3A-3C**

	<b>Design Attribute</b>	<b>Design Changes, Constraints and Appraisal</b>
1	Wind turbine layout and grouping	The wind turbines will be fairly evenly distributed across the view, appearing as one development with no overlapping or irregular spacing. The coastal landform will obscure the bases of the northern four wind turbines. The wind turbine grouping appears informal and visually comfortable in the view.
2	Scale-indicators and focal points	There are few focal points within the view. The relatively low lying foreground landform with the sheltered houses/farms with tree belts provide the key scale-indicators.
3	Contextual relationship with coast	The wind turbines appear close to the coast but are clearly located within the marine environment with a visible separation between the majority of the turbines and the coastal landform.
4	Height relationship with coastal elements and features	The wind turbines appear below the height of the foreground signage but are taller than the other elements that make up the view. Given the generally low lying landform and lack of any focal points, the wind turbines sit comfortably in the background and appear aligned parallel to the coastline.
5	Backclothing	The wind turbines will be partially seen against the marine backcloth breaking the marine / skyline horizon. They also form part of the backcloth to the coastal landform.
6	Scale of wind turbines	The scale of the wind turbines complements and relates to the coastal plateau landform, the expansive skies and the simple marine palette. However, they will be relatively close and tall features within the view.
7	Relationship to surroundings	The wind turbines relate comfortably to the coastal landform reflecting the alignment of the coastline.
8	Visual appearance from coastal settlements	The wind farm will be a new feature within the close seascape and be visible from the coastal settlements. The uniform appearance of the turbines and layout will give the wind farm a visually cohesive character that sits comfortably within the seascape.

**Viewpoint 04 - B999 Whitecairns (8.1 km to nearest wind turbine)**  
**Figures 4A-4C**

	<b>Design Attribute</b>	<b>Design Changes, Constraints and Appraisal</b>
1	Wind turbine layout and grouping	Only the upper column and blades will be visible from this viewpoint. The wind turbines will appear in six groups of overlapping rows from this direction. In contrast to the ES design, the hub heights are lower and therefore the northern and southern groups of wind turbines are potentially further obscured by the intervening landform. The visible wind turbine grouping appears relatively formal from this view due to the angle of the rows.
2	Scale-indicators and focal points	The landscape within the view is relatively uniform with few focal points. The landform to the north and forestry in the middle ground which extends into the horizon provide the main scale indicators.
3	Contextual relationship with coast	There is no visibility of the sea available from this viewpoint which effectively 'visually closes' the perceived distance between the turbines and the coastline.
4	Height relationship with coastal elements and features	The upper portion of the wind turbines appear within the skyline but are clearly lower than the landform to the north. The wind turbines remain secondary in scale to the rising landform to the north.
5	Backclothing	The wind turbines will serve as part of the backcloth to the coastal landform. In turn, they will be backclothed against the sky.
6	Scale of wind turbines	The scale of the wind turbines works comfortably with the existing landform and features within the view in spite of their more regimented layout when viewed from this location.
7	Relationship to surroundings	The wind turbines will visually sit comfortably within the simple landscape and coastal edge. It is a positive attribute that they are seen nestling behind the lower section of landscape wedged between the higher landform to the north and the rising woodland to the south.
8	Visual appearance from coastal settlements	The wind turbines will remain noticeable but appear as distant features from settlements in this area.

**Viewpoint 05 – Aberdeen Beach (7.5 km to nearest wind turbine)**  
**Figures 5A-5C**

	<b>Design Attribute</b>	<b>Design Changes, Constraints and Appraisal</b>
1	Wind turbine layout and grouping	The wind farm will appear as one group in an informal clustered layout with some overlapping blades and two turbines will have overlapping jacket foundations. The wind turbine grouping appears informal and visually comfortable in the view presenting a new focal point.
2	Scale-indicators and focal points	There are few focal points or scale indicators within the view, although the distant coastline extending to Peterhead is visible along the horizon. Large ships within the offshore anchor area serve as transient scale indicators.
3	Contextual relationship with coast	The wind turbines appear within the open sea/outer bay and provide a visual link between the Girdleness headland in the south and visible coast to Peterhead in the north.
4	Height relationship with coastal elements and features	The absence of competing focal points to draw the eye and the location of the wind turbines within Aberdeen bay increases the prominence of the wind turbines such that they will become the main focal point in the view.

	<b>Design Attribute</b>	<b>Design Changes, Constraints and Appraisal</b>
5	Backclothing	The wind turbines will be seen against an intermittently active marine backcloth that is defined by sea and sky
6	Scale of wind turbines	Whilst the wind turbines will become the focal point within the view, their location within the seascape and the lack of other scale indicators within the view allows the turbines to sit comfortably within the view.
7	Relationship to surroundings	The wind turbines will visually sit comfortably within an active seascape of changing appearance under different weather and light conditions.
8	Visual appearance from coastal settlements	The wind farm will be a new feature within a seascape visible from Aberdeen. The uniform appearance of the wind turbines and layout will give the wind farm a visually cohesive character that sits comfortably within the active seascape.

**Viewpoint 07 – Torry Battery (7.9 km to nearest wind turbine)  
Figures 6A-6C**

	<b>Design Attribute</b>	<b>Design Changes, Constraints and Appraisal</b>
1	Wind turbine layout and grouping	The wind farm will appear as five groups evenly spaced across the horizon. The wind turbine grouping appears formal due to the rows of turbines visible but not uncomfortable within the view. The wind turbine group sits comfortably on the horizon line between the two breakwaters.
2	Scale-indicators and focal points	The lighthouse provides the main focal point and scale indicator within the view. The harbour walls and more distant coastline to the north are also noticeable features. Large ships within the offshore anchor area are another scale indicator albeit transient.
3	Contextual relationship with coast	The wind turbines sit comfortably within the open sea/outer bay between the distant coastline to Peterhead and the lighthouse and harbour walls in the foreground.
4	Height relationship with coastal elements and features	The wind turbines are noticeably larger than the coastal landform to the north but are smaller in height to the foreground harbour features including the lighthouse. Due to the distances between the existing features and the wind farm and its offshore position, this arrangement appears visually comfortable.
5	Backclothing	The wind turbines will be seen against an active marine backcloth with a distant recessive coastal landscape.
6	Scale of wind turbines	The wind turbines have a comfortable relationship with the foreground lighthouse to the south and due to the separation distance, they do not appear out of place against the distant coastline to the north.
7	Relationship to surroundings	The wind turbines will visually sit comfortably within an active seascape of changing appearance under different weather and light conditions.
8	Visual appearance from coastal settlements	The wind farm will continue to be a new feature within a seascape visible from Aberdeen. The uniform appearance of the wind turbines and the relatively tight layout will give the wind farm a visually cohesive character that sits comfortably within the active seascape.

**Viewpoint 09 – Forvie Sands (10.3 km to nearest wind turbine)  
 Figures 7A-7C**

	<b>Design Attribute</b>	<b>Design Changes, Constraints and Appraisal</b>
1	Wind turbine layout and grouping	The wind farm will appear as three close groups of two, three and six wind turbines. The wind turbines to the north will appear slightly separate from the other groups but overall the wind turbines still would be viewed as one development. The lower sections of the columns on the four turbines to the south would be obscured by the foreground sand dunes
2	Scale-indicators and focal points	There are limited focal points/scale indicators within the view although tower blocks on the edge of Aberdeen are just visible to the south.
3	Contextual relationship with coast	The sand dunes create small vistas towards the sea and the majority of the wind turbines would appear framed within one of these views. The southern wind turbine hub and blades appear just above the sand dunes. The arrangement and framing of the wind turbines increases their visual prominence and their relationship with the coast but the simple palette of elements works well visually.
4	Height relationship with coastal elements and features	The wind turbines will lie below the height of the sand dunes which frame the views and will sit separately within the sea at a distance which gives an acceptable arrangement in relation to the coastal landscape.
5	Backclothing	The wind turbines will be seen against a marine backcloth with clear links to the activity of the bay area around Aberdeen.
6	Scale of wind turbines	The scale of the wind turbines works comfortably with the coastal landform due to the separation distance from the coast and the foreground features such that the wind turbines do not visually compete with it.
7	Relationship to surroundings	The wind turbines, although noticeable features, sit comfortably within the relatively simple view of few defining elements.
8	Visual appearance from coastal settlements	The wind farm will continue to be a new feature within a seascape visible from settlements within this area. The uniform appearance of the wind turbines will give the wind farm a visually cohesive character that sits comfortably within the seascape.

**Viewpoint 12 – Kincorth Hill (11.5 km to nearest wind turbine)  
 Figures 8A-8C**

	<b>Design Attribute</b>	<b>Design Changes, Constraints and Appraisal</b>
1	Wind turbine layout and grouping	The wind farm will appear overall as a single group although the northern three wind turbines are slightly separate to the rest. The grouping is visually comfortable.
2	Scale-indicators and focal points	The view from Kincorth Hill looks across Aberdeen where the many houses and commercial buildings provide relevant scale indicators. There are no prominent focal points although the church tower of Nigg Kirk rises from the trees into the skyline to the south.
3	Contextual relationship with coast	The wind farm appears within the open bay area between the built up area of Aberdeen and the curving coastline to the north.
4	Height relationship with coastal elements and features	The wind turbines are noticeably larger than the scale of buildings within the mid-ground of the view but the offshore location and the foreground trees which surround the viewpoint reduces the wind

	<b>Design Attribute</b>	<b>Design Changes, Constraints and Appraisal</b>
		farm's prominence in the view to some degree.
5	Backclothing	The wind turbines will be seen against an active marine backcloth with clear links to the activity of the bay area around Aberdeen. The turbines will be seen on the horizon line against an expansive coastal panorama.
6	Scale of wind turbines	The scale of the wind turbines is large when viewed from this direction and elevation but the separation provided by the sea and the variety of foreground elements helps to moderate the perceived contrast in scale.
7	Relationship to surroundings	The wind turbines will become the central focus within the view although the city and constant shipping activity will distract to some degree.
8	Visual appearance from coastal settlements	The wind farm will be a new feature within a seascape visible from settlements within this area. The uniform appearance of the turbines will give the wind farm a visually cohesive character that sits comfortably within the expansive and active seascape.

**Viewpoint 13– Udney Station (12.6 km to nearest wind turbine)  
Figures 9A-9C**

	<b>Design Attribute</b>	<b>Design Changes, Constraints and Appraisal</b>
1	Wind turbine layout and grouping	The smaller wind turbines reduce the number of hubs visible, so that only those of the three wind turbines to the north of the array will be visible. Only blade tips of the remaining wind turbines will be visible. The grouping of wind turbines is broadly linear and parallel to the coastal edge.
2	Scale-indicators and focal points	As a relatively uniform plateau landscape there are few focal points or obvious scale references. Forestry blocks on the horizon and in the mid-ground provide the main landscape features.
3	Contextual relationship with coast	The coast and sea are not visible from this viewpoint. The relatively even spacing between the wind turbines suggests that they are aligned parallel to the coastal edge.
4	Height relationship with coastal elements and features	From this viewpoint there is no clear view of the sea or the coastal edge. The wind turbines otherwise sit comfortably within the broadly flat and expansive coastal landscape.
5	Backclothing	The wind turbines will be a distant feature along the horizon line with only the upper portions of the wind turbines visible against the skyline.
6	Scale of wind turbines	The visible blades will rise above the distant tree blocks but due to the distances involved and the partial screening by landform and vegetation the scale difference is not particularly noticeable.
7	Relationship to surroundings	The wind turbines will appear separate to the surroundings but as mostly obscured they will not be particularly detectable. The scale of the wind turbines and their alignment reflects that of the coastal plateau.
8	Visual appearance from coastal settlements	The movement of the blades may draw the eye from settlements within the area but they will not be prominent features within a broadly expansive view.

**Viewpoint 15 – Brimmond Hill (14.4 km to nearest wind turbine)**  
**Figures 10A-10C**

	<b>Design Attribute</b>	<b>Design Changes, Constraints and Appraisal</b>
1	Wind turbine layout and grouping	The wind farm will appear overall as one almost linear group with only the three southernmost wind turbines spaced slightly further apart from the others.
2	Scale-indicators and focal points	The 360 degree view from Brimmond Hill includes a large variety of elements including the city of Aberdeen to the airport and its associated industry and the more open landscape to the north. Perwinnes Radar Station and the tower blocks in Aberdeen serve as particular focal points/scale comparators.
3	Contextual relationship with coast	The wind farm appears separate from the coastline and seen within the seascape just north of the main settlement areas. The wind turbine arrangement which appears almost linear from this elevation fits comfortably with the extensive north-south aligned coastline and the seascape views.
4	Height relationship with coastal elements and features	The wind turbines sit within the expansive sea view barely breaking the horizon line. They are noticeably larger than the radar station and tower blocks but are clearly separate to the landscape and the coastline.
5	Backclothing	The wind turbines will be seen against a marine backcloth with clear links to the activity of the bay area around Aberdeen.
6	Scale of wind turbines	The scale of the wind turbines works acceptably within the coastal landform as they remain below the horizon line and clearly separated from the coastal landscape.
7	Relationship to surroundings	The wind turbines will become a focus within this part of the view although the city and constant shipping activity will distract to some degree. The alignment of the wind turbines reflects that of the coastline and their linear character relates well to the coastal plateau.
8	Visual appearance from coastal settlements	The wind farm will continue to be a new feature within a seascape visible from settlements within this area. The uniform appearance of the turbines will give the wind farm a visually cohesive character that sits comfortably within the active seascape.

## 6.6. Summary

The 11 wind turbine Development, deployed in a single phase comprising only one type of wind turbine and foundations, has been appraised visually from nine locations. The key stakeholders agreed with these locations. The wind farm design is simple and coherent. The wind turbines are marginally smaller than the consented design envelope.

Having carried out the nine visual appraisals, LDA Design concluded that the wind farm design described in this DS will have very similar effects to that assessed within the Environmental Statement.

## ***Appendix 1***

Drawing Number 61290-2AG-700-001 – Site Location

Figure 1 – VP Locations

Figure 2 – VP01

Figure 3 – VP02

Figure 4 – VP04

Figure 5 – VP05

Figure 6 – VP07

Figure 7 – VP09

Figure 8 – VP12

Figure 9 – VP13

Figure 10 – VP15