THE HIGHLAND COUNCIL

Agenda Item	6.3
Report No	PLN/060/13

NORTH PLANNING APPLICATIONS COMMITTEE – 18 June 2013

12/01659/S36: Beatrice Offshore Windfarm Ltd

Report by Head of Planning and Building Standards

SUMMARY

Description: Construction and operation of an offshore wind farm and associated electricity transmission works in the Moray Firth.

Recommendation: - RAISE NO OBJECTION

Ward: 04 – Landward Caithness

Development category: Major

Pre-determination hearing: None.

Reason referred to Committee: More than 5 objections

1.0 INTRODUCTION

1.1 The Council has been consulted by the Scottish Government (Marine Scotland) on an application submitted under section 36 of the Electricity Act 1989 and Part 4 of the Marine (Scotland) Act 2010 and Section 101 of the Marine and Coastal Access Act 2009 to construct and operate an offshore wind farm in the Moray Firth.

1.2 The Council is not the determining authority but is an important consultee nonetheless. Unlike onshore development, were the Council to decide not to support the developments, there would be no automatic Public Local Inquiry.

1.3 In February 2009, Beatrice Windfarm Limited (BOWL) was awarded an exclusivity agreement by The Crown Estate for the development of an offshore wind farm in Scottish Territorial Waters; one of six identified in Scotland as part of the Crown Estate Scottish Territorial Waters leasing programme (Figure 1).

1.4 The Crown Estate granted a lease agreement for Beatrice in July 2011. A grid connection agreement has been secured that will enable a design output capacity of 1,000MW (1GW).

1.5 The development proposed shares similar characteristics, and therefore some of the environmental effects, to applications for onshore wind development and therefore this report will give consideration to those effects, positive and negative, in so far as they relate to the interests of the Council. This in the main relates to those effects on the human environment as opposed to the marine environment. Marine Scotland is best placed to consider effects on the latter.

2.0 PROPOSAL

2.1 The proposed development comprises:

- Up to 277 wind turbine generators and associated support structures
- Up to three meteorological masts
- 2 AC Offshore Substation Platforms (OSP's)
- Possible 1 AC to DC converter Offshore Substation Platform (OSP)
- Inter-array cabling linking the turbines, OSP's and meteorological masts

2.2 The application is supported by an Environmental Statement (ES). An addendum to the Environmental Statement has recently been submitted (May 2013). This provides an update in the key following sections:

- Fish ecology (some refining of the assessment)
- Marine Mammals (updated population modelling for harbour seal and bottlenose dolphin)
- Ornithology (update population modelling)
- SLVIA (refined coastal character assessment and included viewpoint at Lybster Harbour)

The changes are not considered critical to the Council's consideration of the scheme, particularly given experience with the MORL application.

2.3 Given many of the uncertainties around this type of development within what is a challenging marine environment, as well as the long lead time in which the project is likely to commence on site, the exact layout, design, number, height and support structure requirements for each phase of the development is yet to be determined. The ES is based on a principle known as the 'Rochdale Envelope'; a term deriving from established case law, which essentially means that consideration is given to the maximum and minimum extents of the project in order to establish a 'worst case scenario'. Work continues on refining the project concepts and the exact final design is unlikely to be known until after consent is given.

2.4 The final number of turbines within the scheme as a whole will be dependent upon a range of factors including issues such as ground conditions and turbine size. For example, the larger the turbine the fewer the number since each turbine will require a greater swept path. The parameters for the scheme collectively range from 277 wind turbines (at a height of 132m) to 142 wind turbines (at 198m in height). No most likely scenario has been outlined although recent discussion indicates 140 turbines at 187.4m. While the ES indicates that more than one turbine type may be used in the construction of the site, the applicant has indicated that this is unlikely to be the case.

2.5 The turbines will be supported by substructures and foundations which hold them on the seabed. Several foundation and substructure concepts are proposed as options. These include Jacket with pin piles, Jacket with suction piles and Jacket with gravity base as well as mono-tower on gravity base or monopole. (Figure 3).

2.6 With the turbines secured to the seabed a network of electricity cables (known as the inter-array cables), will connect each of the turbines to one of up to three offshore substation platforms (OSPs). The overall height of the AC OSP's will be 50m above water line and have 40m x 40m platforms sitting on a jacket structure. The DC OSP (if required) would sit 12m higher and would be a larger jacket structure platform with dimensions of 115m x 55m.

2.7 Construction of the proposed wind farms and the transmission infrastructure is expected to take a maximum of five years from commencement of the transmission infrastructure works to final commissioning. Construction is expected to commence in 2015/16, with first export of electricity anticipated by summer 2018. The construction schedule will be 24 hours a day, 365 days a year.

2.8 The development is expected to have an operational lifespan for 25 years. There is a legal requirement under the Energy Act 2004 for the site to be decommissioned at the end of its working life. No decommissioning plan has been included within the ES but will need to be subject to further consideration, prior to decommissioning. Having said that, a decision may be taken at some point within the period of operation on whether the development should be re-powered.

2.9 There is no mention of specific onshore service infrastructure locations, as these have yet to be selected or pursued. If proposed to be located within Highland, these may require future consideration by the Council.

3.0 SITE DESCRIPTION

3.1 The proposal is located on the Smith Bank in the Outer Moray Firth, approximately 13.5 km (7.5 nm) from the Caithness coastline as shown in Figure 2. The site covers 131.5 km^2.

3.2 The development is located adjacent to the Jacky oil platform and 5km from the closest Beatrice platform; developments that comprise two of five platforms visible from the Caithness coast. Two offshore wind demonstrator turbines, also visible from the Caithness coastline, are positioned within the Beatrice oil field, a distance of 11km (6 nm) from the site and 20km from the coast at Clyth (Figure 3).

3.3 The three proposed offshore wind farms of MacColl, Telford and Stevenson submitted by Moray Offshore Renewables Ltd are located immediately adjacent to the site to the south-east (Figure 4). The Council submitted its consultation response to that development on 22 March 2013.

3.4 There are no natural heritage designations on the site. However, there are a number of important designations located along the Highland coastline (Figures 5A and 5B). These designations and notified interests include:

- Inner Moray Firth SPA – bottlenose dolphin, sandbank
- Dornoch Firth and Morrich More SPA – common seal, sandbank, dune habitat and species

- East Caithness Cliffs SPA, SSSI – seabirds incl. herring gull, guillemot, cormorant, shag, peregrine, kittiwake
- North Caithness Cliffs SPA, SSSI (including Dunnet Head RSPB Reserve) – peregrine, puffin, fulmar kittiwake, guillemot

- Berriedale and Langwell Waters SAC – Atlantic salmon
- River Oykel SAC – Atlantic salmon, freshwater pearl mussel
- River Thurso SAC – Atlantic salmon
- River Evelix – Freshwater pearl mussel
- River Moriston – Atlantic salmon, freshwater pearl mussel

3.5 From a landscape/seascape perspective, the development has a bearing on the National Seascape Unit of East Caithness and Sutherland as set out in the SNH Seascapes Report (SNH, 2005). This seascape unit includes Seascape Character Types (SCT) 1 – 3; Remote High Cliffs, Rocky Coastline with Open Sea Views and Deposition Coastline. SCT 2 – Rocky Coastline with Open Sea Views is the predominant type.

3.6 The key characteristics of the East Caithness and Sutherland unit are the predominantly low rocky coastline (with occasional low cliffs) and a narrow coastal shelf constrained by inland hills with direct sea views. The sea is open and expansive with settlement sparse, generally within small established settlements of strong historic/crofting pattern. This pattern is clearly evident within settlements such as Latheron, Clyth, Ulbster, Lybster, Sarclet and Keiss. The sensitivity of this seascape to change is regarded as low – medium with oil rigs and offshore wind turbines identified as an influence already on this unit

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3.7 There are two Special Landscape Areas within the study area; Duncansby Head (33.5km) and Flow Country and Berriedale Coast (27km).

3.8 From a cultural heritage perspective there are a number of important archaeological sites on the East Caithness coast of relevance to the proposed development. These include the Scheduled Ancient monuments of:

- Borrowston Broch
- Garrywhin Fort
- Tulloch Broch and field system
- Wag of Forse settlement
- Forse House settlement
- Watenan Broch
- Watenan Fort
- Dunbeath Inver Fort
- Latheronwheel promontory fort
- Cairn of Get
- Castle of Old Wick
- The Hill o' Many Stanes

And, the following listed buildings:

- The Corr Croft
- Dunbeath Castle
- The Whaligoe Steps
- Dunbeath Portomin Harbour

- Forse House Hotel
- Lybster Harbour

3.9 There are a number of onshore wind energy schemes situated near to the East Caithness coast that are relevant to this application from the perspective of cumulative impact. These are:

Approved/Operational

- Buolfruich
- Causeymire
- Flex Hill
- Achairn
- Wathegar
- Wathegar 2
- Camster
- Burn of Whilk
- Stroupster

Submitted

- Dunbeath
- Halsary
- Bad a Cheo
- Achlachan

In addition, the proposed Moray Offshore Windfarm Ltd scheme is located immediately to the south-east.

4.0 PLANNING HISTORY

4.1 There is no planning history associated with this development.

5.0 PUBLIC PARTICIPATION

5.1 The application was advertised in the Edinburgh Gazette on 01 May 2012 and locally on 04 and 11 May 2012.

5.2 One letter of representation against the proposal has been received directly by the Council. Marine Scotland has received thirty seven letters of representation against the proposals, eleven of which come from within Highland; Wellbeck Estates, Langwell Estates and Braemore Estates, Ness and Beauly District Fishery Board and ten individuals.

5.3 Issues raised are summarised as follows:

- General misgivings of wind energy, including subsidies
- Cost (poor return for investment and economic viability implied)
- Navigational safety
- No significant jobs post construction
- Visual impact – individually and cumulatively (onshore and offshore)
- Impact on tourism
- Noise impact
- Impact on MOD nautical and aeronautical activities
- Adverse effect on fishing industry
- Effect on marine habitat and life – individually and cumulatively

- Uncertainty of project unacceptable
- Uncertainty regarding the appropriate level of studies relating to the effect on marine mammals and their hearing
- Concerns relating to the effects on Salmon (and therefore Special Areas of Conservation): – noise, electromagnetic fields, suspended sediment concentrations and habitat loss being the key issues

5.4 One letter of support has been received by Marine Scotland from Tain Community Council. The issues raised are:

- Contribution to combating global warming
- Support to government policy on renewable energy

5.5 An abbreviated list of those who made representation on the application is set out in Appendix 1. Marine Scotland has not disclosed full names and addresses.

6.0 CONSULTATIONS

Consultations undertaken by The Planning and Development Service

6.1 **Sinclair Bay Community Council**: No response received.

6.2 **Wick Community Council**: No response received.

6.3 **Tannich and District Community Council** while not objecting has expressed concern regarding the extent of visibility of the development, in combination with the proposed Moray Offshore wind farm, particularly from Sarclet and the potential noise generated dependent upon meteorological conditions. In addition access for fishing post-construction was raised as an uncertainty.

6.4 **Latheron and Lybster Community Council**: No response received.

6.5 **Berriedale and District Community Council**: No response received.

6.6 **Helmsdale Community Council**: No response received.

6.7 **Brora Community Council**: No response received.

6.8 **Golspie Community Council**: No response received.

6.9 **Dornoch Community Council**: No response received.

6.10 **Tain Community Council**: Support (see 5.4).

6.11 **Inver Community Council**: No response received.

6.12 **Tarbat Community Council**: No response received.

Consultations undertaken by Scottish Government (Marine Scotland)

6.13 A summary of consultee comments is provided in Appendix 2. The full text of most of the consultee comments can be viewed on the e-planning portal http://wam.highland.gov.uk and entering the case reference number.

7.0 POLICY

7.1 The following policies are relevant to the assessment of the application:

Highland Wide Local Development Plan (2012)

7.2

Policy 49	Coastal Development
Policy 57	Natural, Built and Cultural Heritage
Policy 58	Protected Species
Policy 59	Other Important Species
Policy 67	Renewable Energy Developments
Policy 69	Electricity Transmission Infrastructure

Highland Renewable Energy Strategy (HRES) (2006)

7.3 HRES recognises the potential of Offshore Wind, predicting that 'technology should be proven by 2010 with rapid growth thereafter.' It sets out installed capacity targets of 200MW by 2015, 1,000MW by 2020 and 1,975MW by 2050. It also identifies the Smith Bank as a preferred development area.

Working together for the Highland 2012-17: A Programme for The Highland Council

7.4 The Council's programme contains a number of relevant priorities relating to the Highland economy that are of relevance to this proposal. These include:

15. *The Council will support and invest in appropriate opportunities presented by renewable energy, particularly wave and tidal power. We will continue to develop the Highlands as a centre for research and development, fabrication and engineering.*

17. *The Council will continue to support Highland-wide, large scale employment growth opportunities in the Cromarty Firth (Invergordon, Highland Deephaven and Nigg Energy Park), Scrabster Enterprise Area, Ardersier and Kishorn and in the UHI Campus development.*

18. *The Council will continue to work with private and public sector partners to promote the Highlands' ports and harbours.*

Scottish Government Planning Policy and Guidance

National Planning Framework 2

7.5 NPF 2 provides a context for establishing Scotland as a leading location for the development of renewable energy technology and an energy exporter over the long

term. It encourages a mix of technologies and recognises the contribution of offshore wind.

Scottish Planning Policy

7.6 SPP recognises that support for renewable energy projects and the need to protect and enhance Scotland's natural and historic environment must be regarded as compatible goals. The planning system has a significant role in securing appropriate protection to the natural and historic environment without unreasonably restricting the potential for renewable energy. National policies highlight potential areas of conflict, but also advise that detrimental effects can often be mitigated and or effective planning conditions can be used to overcome potential objections to development.

7.7 Criteria outlined within SPP for the assessment of applications include landscape and visual impact; effects on heritage and historic environment; contribution to renewable energy targets; effect on the local and national economy and tourism and recreation interests; benefits and dis-benefits to communities; aviation and telecommunications; noise and shadow flicker; and cumulative impact.

Routemap for Renewable Energy (2011)

7.8 This document reflects the challenge of Scotland's new target to meet an equivalent of 100% demand for electricity from renewable energy by 2020 (and at least 30% overall energy demand from renewables by 2020). In addition, the Routemap demonstrates that with 25% of Europe's offshore wind potential, the manufacturing, supply chain, job creation and training opportunities present Scotland with scope for sustainable economic growth.

Scotland's Blue Seas – Green Energy: A Sectoral Marine Plan for Offshore Wind Energy.

7.9 Published in March 2011 this Plan contains proposals for offshore wind energy development in Scottish Territorial Waters at the regional level up to 2020 and beyond and recognises offshore wind as an integral element in Scotland's contribution towards action on climate change and Scotland's energy security. It notes that there is potential to generate 4.8 GW of electricity from the two Round 3 sites in Scottish Offshore Waters (within which the MORL Zone is located) before 2020.

8.0 ASSESSMENT

8.1 This is not a planning application. However, the proposals share some similar characteristics to on-shore wind energy projects and will have an effect on the environment of Highland, from both a natural heritage and human perspective. This is particularly the case for the latter. It is therefore appropriate that any determination be made on the planning merits in so far as they relate to the Council's interests.

Determining Issues

8.2 The determining issues are:

- do the proposals accord with the development plan?;
- if they do accord, are there any compelling reasons for not approving them?
- if they do not accord, are there any compelling reasons for approving them?

8.3 To address the determining issues Committee must consider the implications on the following:

a) Policy
b) Habitat and Species
c) Commercial Fisheries and Fishing Interests
d) Aeronautical and Maritime Safety
e) TV/Telecommunications
f) Noise
g) Seascape, Landscape and Visual effects, taking into account residential amenity
h) Socio-economics

Policy

8.4 Scottish Government Policy is strongly supportive of renewable energy development. This reflects the international desire to be more carbon neutral. While some objectors challenge the rationale of both UK and Scottish Government policy on renewable energy, particularly in terms of the extent to which wind energy contributes to the climate change agenda, it is not the role of the Planning Authority to review the adequacy of national planning policy or guidance.

8.5 The Development Plan recognises the potential for renewable energy development in Highland. While the development plan does not specifically reference offshore wind energy within policy, it is considered that the key policy relating to renewable energy, Policy 67 (Renewable Energy Developments), of The Highland wide Local Development Plan would apply. This gives general support to renewable energy development highlighting the need to take into consideration the contribution to meeting energy targets and any positive or negative effects on the local/national economy. Various safeguards are built into the policy wording reflecting the need to balance this support with the impact on matters such as habitats and species, landscape and visual impact, residential amenity, telecommunications, navigation to name a few. Proposals need to demonstrate that they are not significantly detrimental to such concerns.

8.6 In addition, Policies 28 (Sustainable Design), 57 (Cultural and Built Heritage), 58 (Protected Species) and 61 (Landscape) of the Highland wide Local Development Plan are all relevant and require to be given due consideration.

8.7 Offshore renewable energy potential is identified within the Highland Renewable Energy Strategy (HRES), with an area around the Smith Bank highlighted as a preferred development area. HRES identified a potential offshore capacity of

1,000MW by 2020 and 1,975MW by 2050. The Beatrice development alone would provide 1,000MW by 2020. In combination with Moray Offshore, this would be 2,500MW by 2020; exceeding the predicted output that was expected over the longer term.

8.8 The Development Plan supports the broad principle of renewable energy development in this location, with HRES giving specific preference to the location for this type of technology. Providing that the impacts of the development are not considered to be significantly detrimental, particularly in relation to the natural and human environment of the Highland area, the proposals would comply with the Development Plan.

Habitat and Species

8.9 It is considered that Marine Scotland is more appropriately placed to come to a view on the acceptability or otherwise of effects on the marine environment and ecology generally. Yet, the effects of the development may extend to terrestrial designations that are within the Council area. Having said that, it will be a requirement of Scottish Ministers in coming to a decision on the scheme to undertake an Appropriate Assessment, taking into account the advice of SNH and Joint Nature Conservation Committee (JNCC), of the effects on the qualifying interest of any international designations such as SAC's or SPA's.

8.10 Some objectors, confirmed by the Association of Salmon Fisheries Boards which was consulted on the application, consider that the ES fails to demonstrate that the development will not affect the integrity of the Atlantic salmon populations within some of Highland's most important salmon rivers for which they are designated Special Areas of Conservation (SACs). Further monitoring and mitigation is suggested before confidence can be gained. Potential for avoidance issues such as underwater noise and electromagnetic fields are identified.

8.11 The advice from SNH and JNCC in July 2012 was that there was insufficient information to conclude that the development would not adversely affect the viability of Atlantic salmon supported by these SAC's and therefore evidence that it will not impact upon their integrity. Information gaps within the ES relating to cables and underwater noise were identified. The recently submitted addendum aims to address these matters. SNH and JNCC have yet to offer their advice to Marine Scotland on this however Members should be confident that these matters will be addressed appropriately by Marine Scotland.

8.12 In its objection, RSPB takes the view that the ES underestimates the risk and potential impacts of the development on sea bird populations as a result of information on bird populations not being up-to-date. The consultation response from SNH and JNCC in July 2012 indicates that further information regarding collision risk modelling would be required to come to a view on the likely effects of key SPA seabirds. Considerable discussion has taken place on ornithology with Marine Scotland, SNH/JNCC and RSPB to inform the addendum. The outcome of this will inform the Appropriate Assessment that Marine Scotland is required to undertake.

Commercial Fisheries and Fishing Interests

8.13 Since the development will effectively restrict access to fishing grounds, during construction and to an extent during operation, and may affect fish/shellfish populations, the applicant has considered the effect of the proposal on commercial fishing interests. However, as commercial fishing within the Outer Moray Firth does form part of the Highland economy, it could have an effect on the Highland community. Commercial fishing concerns operating from Invergordon, Wick and Scrabster with smaller scale lobster/crab creel interests at most harbours along the Caithness and Sutherland coast. The latter tend to be in-shore (i.e. within 6Nm).

8.14 The wind farm is located within an area that does experience commercial fishing activity. This activity is mainly for scallop (by dredge) but also, to a lesser extent squid (by demersal trawls) and whitefish fishing activity (principally haddock by seine net) has been recorded within the site albeit at low level. The applicant has established that activity overall within the area is relatively limited compared to elsewhere in the Moray Firth and very low on a national scale. The ES identifies that from the perspective of the EIA Regulations the effects on commercially fished species within the Beatrice site will be minor and therefore not significant.

8.15 The site is a relatively modest area within the context of the Moray Firth as a whole with fishing recorded as being relatively sporadic. Taken together with MORL however, the loss of fishing grounds would become more significant. The applicant assesses this as effect as 'moderate' in EIA terms, the majority of this exclusion as a result of MORL itself. Nevertheless with a small scallop fleet operating from Wick, this may be of some detriment in terms of displacement.

8.16 By way of mitigation, the applicant is looking at ways to continue to allow fishing within the wind farm area both during and post-construction. This includes continuing to speak with fishermen and the fishing industry throughout the construction phase. In its application, MORL indicated that a liaison group would be established to allow continual dialogue with the fishing industry. It is understood that this is now established and it is recommended that the applicant engage through this forum. This would be an appropriate way to provide the information sought from Scottish Fisherman's Federation (SFF).

8.17 Given the in-shore nature of lobster and crab fishing activity, it is not considered that the proposals would have any significant effect.

8.18 Unlike the effects on scallop and squid fishing, the impact to salmon and sea trout fishing will be indirect given that this occurs in-river rather than at sea. As an important sector of the Highland economy it merits consideration.

8.19 The success of these fishing interests essentially rest with the success of the species as a whole. It is known that recently spring salmon numbers have been in decline. Quite rightly concerns are that the proposal may lead to further deterioration. The ES considers that the impact of construction and operation on these species will be minor at worst. SNH and JNCC consider that the effects of underwater noise on salmon and sea trout merits further consideration to support this claim. This too is considered in the Addendum.

Aeronautical and Maritime Safety

8.20 The wind farm has potential to affect both civil and military aviation interests. The development lies within an area of uncontrolled airspace where there is no mandatory requirement to be in communication with or receive radar service from any air traffic control (below 19,500ft). Pilots are ultimately responsible for seeing and avoiding obstacles. Controlled airspace is established above this point. Having said that, both military and civilian navigational services exist for aircraft transiting the area regardless of height, with RAF Lossiemouth generally having control only to military flights below 9,500ft.

8.21 National Air Traffic Services (En-route) (NERL), which holds the licence from the Civil Aviation Authority (CAA) to provide en-route air traffic services, operates the Allan's Hill Primary Surveillance Radar (PSR) located near Ladysford in Aberdeenshire. It has confirmed that the proposed wind farms will affect the safeguarding criteria of this installation. As a result it objects to the proposal.

8.22 Highlands and Islands Airports Limited (HIAL) has not yet responded to the consultation from Marine Scotland. However for the MORL application it highlighted that the turbines may affect the performance of aeronautical systems and instrument approach procedures for Inverness and Wick Airports. In that application, HIAL considered it necessary for the applicant to have further discussion and give reassurance that if required suitable mitigation measures will be put in place. Given the similarities of the schemes – albeit Beatrice is closer to Wick Airport – it is likely that this advice would apply to Beatrice.

8.23 From a military perspective, MOD initially objected to the proposal since there is potential for interference with its air traffic control radar at RAF Lossiemouth. This objection has now been removed on the basis that mitigation can be put in place.

8.24 While the applicant accepts the need for, and therefore offers mitigation, to overcome the issues around radar and instrument approach procedure matters, it would be fair to say there remains some uncertainty regarding aircraft navigational safety. This is most likely a result of the untested nature of the possible technical mitigation. Further work will be required. It is worth noting that both military and civil aviation respondents have indicated that aviation lighting will be required to be attached to the turbines. This should ideally be infra-red.

8.25 Turning to maritime safety, the main shipping routes in the area pass some 5Nm to the north - north east of the development (The Pentland Firth route) and 3 – 5Nm to the west (the coastal route). Transiting commercial shipping will pass clear of the wind farm. The only route that does raise an issue of potential increase in collision risk is the shipping route into Wick. The applicant considers the risk to be low and not significant.

8.26 Given that there may be continued potential for fishing activity post-construction, there is potential for fishing vessels to collide with wind farm structures. The risk of this is however considered low.

8.27 The Chamber of Shipping has identified no major concern with the proposal albeit it expects a collaborative approach to issues arising between Beatrice and MORL. The Maritime and Coastguard Agency has raised no significant issues that cannot be addressed by way of mitigation. The Northern Lighthouse Board (NLB) identifies marking and lighting requirements. Every turbine tower is likely to have its base painted yellow and permanent flashing lights placed on peripheral and intermediate structures. Only once the scheme design has been finalised will exact lighting requirements become known.

Telecommunications/TV

8.28 No issues have been raised with regard to possible conflict with telecommunications installations. It may be possible for the development to affect non-satellite digital television reception – something not covered within the ES. However, suitable mitigation can be put in place for those affected.

Noise

8.29 An assessment of predicted onshore noise has been carried out by the applicant. This indicates that noise would not be significant for any potential noise sensitive receptor at the shore. The simplified criteria of 35dB(A) normally applied to on-shore wind turbines is expected to be complied with.

Seascape, Landscape and Visual Impact

8.30 The applicant has undertaken a Seascape, Landscape and Visual Impact Assessment (SLVIA) to determine the likely significant effects of the wind farm and offshore transmission infrastructure. This assessment is based on a 'worst case' which is considered in the ES assessment to be 142 turbines at 198.4m height to tip; the 7MW layout.

8.31 Landscape elements will not be physically altered and therefore effects are assessed as minor at worst and therefore not significant. The effect of the proposed wind farm on seascape character has however been assessed as significant on the section of coastline from Noss Head to Berriedale (13.5km at the closest point to around a distance of 28km). In its response to the application SNH states: *'The Caithness coast is characterised by open, expansive views to the sea with a simple and largely uninterrupted, featureless horizon.'* It then goes on advise that: '*Beatrice will change this horizon by extending over a significant proportion of it, forming a 'landmark' out at sea.'* This supports the applicant's assessment that there will be a significant, in EIA terms, effect.

8.32 SNH considers that cumulative seascape and landscape effects with other similar developments, the MORL scheme in particular, have not been adequately addressed in the ES. While the addendum aims to redress this, SNH has yet to respond to this. Having said that SNH's views on Beatrice alone are clear. Its previously stated position on MORL is also clear: '*MORL will form a 'seascape' element associated with the distant, outer marine environment rather than inshore waters; it is not likely to be perceived as a coastal feature. Nor will it dominate the coast.'* It is therefore apparent given its extent and closer proximity that the

cumulative effect of Beatrice on the MORL scheme will be to substantially increase turbine influence on the seascape and alter the coastal character. Beatrice is likely to increase the prominence of turbines as a distinct seascape feature.

8.33 Turning specifically to the visual effects, the Blade Tip Zone of Theoretical Visibility (ZTV) (Figure 6) shows the theoretical extent of potential visibility of the proposed wind farm. This shows that turbines will be visible from the majority of the Caithness coastal edge between Duncansby Head and Helmsdale at distances of 36km and 40km respectively. There is no visibility of the development from the majority of the flat peat lands in central Caithness. In the intervening sections of hinterland blade tips will be visible but this visibility is more variable due to local topography. In north Caithness visibility is over longer distances with intervening landform and coastal features. Here Beatrice has slightly greater visibility than the MORL scheme possibly as a result of proximity to the shore. In the south views are more elevated but again over longer distances. In general however, the extent of visibility mirrors that of the MORL scheme.

8.34 The applicant has undertaken an assessment of the visual effects from a number of viewpoints, 14 of which are within The Highland Council area. The viewpoints were chosen to be representative of a number of receptors and took into consideration residential areas, transport routes, historic environment features and recreational areas. These viewpoint locations are marked on Figure 7. Photomontage visualisations were produced for some but not all of these viewpoints. Single frame visualisations to The Highland Council Standard have been produced for 5 viewpoints; Keiss (VP2), Wick (VP4), Lybster (VP7), Dunbeath (VP9) and Navidale (VP12).

8.35 In the viewpoint assessment undertaken, significant visual effects were identified on six viewpoints located in the closest section of Caithness between Wick and Dunbeath. These viewpoints are at Wick (VP4), Sarclet (VP5), Hill O'Many Stanes (VP6), Lybster (VP7), and Dunbeath (VP9) & Whaligoe Steps (VP10), located at distances of 13 to 33 km. This is considered to be the core area affected.

8.36 Having said that there are other viewpoints within or adjacent to this core area where the significance of effect has been judged to be 'moderate' yet the applicant does not consider this to be significant in EIA terms contrary to normal convention. VP8 at Latheron and VP2 at Keiss are two such examples; both of which were judged by MORL to be significant for that scheme. Given that Beatrice is closer to the shore and would therefore appear more prominent this is surprising. The effect on Noss Head at VP2 for example would be to introduce development that is of similar scale to this headland feature; where the development forms a wider horizontal feature in the seascape in the view than suggested.

8.37 Views of the development experienced from the A9(T)/A99 vary in character as the road follows the coast, sometimes affording views across water to other sections of the coast and sometimes more directly towards the development. It will be a significant prominent feature on the horizon on seaward views between Berriedale and Latheron on the A9(T) and Latheron and Thrumster on the A99.

8.38 The visual effects of the development are most pronounced where there are direct seaward views and where they are framed by rising ground. This is characterised by views such as that at Dunbeath (VP9).

8.39 Receptors in these locations (with seaward views) will be most likely to experience the full impact of the straight lines within the development layout. When looking directly towards the development the turbines will appear to fall into groups, divided by the clear view between lines. The groups and spaces will tend to form point focuses within an otherwise homogeneous spread of turbines. This can add a valuable rhythm or pacing to the development, but care needs to be taken to avoid the impression of small groups of turbines becoming 'disconnected' at the edges of the array. This 'disconnection' is most likely to be significant from viewpoints aligned with the rows close to the edges of the development, such as at Wick Harbour (VP4).

8.40 From a residential amenity perspective, in general properties within the communities along the coast are south facing and will not have direct visibility. Dunbeath is a good example of this. Within the core area affected, most villages display a historic linear street pattern with properties oriented perpendicular to the sea and not directly towards the development; rather views will be oblique, such as at Lybster (VP7). A few properties will however have direct views. There is potential for a greater number of individuals to be affected on the north side of Wick Bay, given both the scale of the settlement and also that some of the housing does tend to have sea views framed by the headland (VP4). In addition to specific views, residents will be very aware of the development as they go about their daily lives.

8.41 The effect of navigation and warning lights for shipping and air traffic have the potential to make the night time awareness of the development as high as day-time awareness from some locations. Impacts will tend to be lowest from lighting where there is significant lighting onshore, and most significant from areas which currently experience the darkest skies. This will include unlit portions of the A9(T) where lighting may be a distraction or confusion for drivers. Impacts will also seem higher in framed seaward views.

8.42 While the visual amenity of historic sites such as Hill O'Many Stanes will be affected by the presence of the development, albeit a distant and horizontal element within the seascape, the effects of the wind farm on the setting of cultural heritage assets is assessed within the ES as generally minor/not significant. In addition to the MORL scheme, and other on-shore development, the ES concludes that Beatrice does not have a significant effect on historic sites. Historic Scotland has raised no concerns.

8.43 Turning to cumulative effects, the proposed development has potential not only to have in combination effects with the neighbouring proposed MORL development but also onshore wind development. In views from the Caithness coast, the MORL scheme sits behind Beatrice and increases the extent of wind farm development on the horizon. Together the wind farms would present a complex image with some turbines 'clumping' together, some 'stacking' one behind another some appearing

as ‘outliers’. The current misalignment of rows between schemes contributes to this complexity and could affect the all important rhythm mentioned previously.

8.44 With regard to cumulative effects with onshore turbines, this is most likely when travelling south on the A99 where it would be possible to view Beatrice along with MORL, Achairn, Flexhill, Wathegar, Wathegar 2 and Camster in a single view. The additional effect of Beatrice would be to make the offshore element more prominent. Cumulative effects with other developments, such as Dunbeath, Burn of Whilk and Stroupster are likely to be sequential, as one travels through the area, but in the opposite view. Figure 8 contains details of the locations of these developments.

8.45 Although it is considered that the proposal will not on the whole be significantly detrimental to residential amenity, it will introduce, both on its own and in combination with the MORL scheme, a new feature to the seascape and visual influence with Caithness and North Sutherland. This will not be welcomed by all, certainly in the short term.

8.46 Cohesion of design between Beatrice, and the neighbouring MORL scheme if consented, will be important to a successful outcome. To this end, differences in layout and size of turbines should be minimised. Perception of scale and distance from the shore will be adversely affected by these factors and the final layout should seek to minimise any visual jarring.

8.47 Lighting should also be designed to minimise perception from the shore as much as is compatible with safe practice. This should include the exploration with the maritime and Aviation authorities of novel methods which may be appropriate to this new style of development, including the opportunity to use infra-red aviation warning lights.

Socio-Economics

8.48 The ES gives consideration to the socio-economic impact of the Beatrice development but understandably given the scale of the proposal, the study area considers it across four local authority areas of Highland, Moray, Aberdeenshire and the City of Aberdeen, rather than focussing on Highland per se.

8.49 Details on the level of job opportunities and associated economic activity related to procurement, construction, operation, and decommissioning of the project that the development could generate is provided. The ES provides an estimate of indicative capital investment in the region of £3bn, and explores a couple of scenarios to explain the impact upon GVA and employment both in the study area, but also upon Scotland and on the rest of the UK. The baseline case estimates Gross Value Added (GVA) during the construction phase of £25m, with a figure of £313m for Scotland as a whole. There would seem scope for the Highlands to significantly increase its share of the construction element of the development.

8.50 The ES rightly recognises the lack of manufacturing capability in relation to offshore renewables in Scotland. Efforts continue to attract a potential turbine manufacturer to the Highlands. This is not only due to the close proximity of the

area to the wind farm site but also to take advantage of the existing renewable energy supply chain. This supply chain has a high degree of expertise in the energy sector, not least because of skill sets developed in the Oil and Gas and nuclear industries. Industry bodies such as Energy North, with a growing membership coming from the renewables sector, and the Caithness Chamber of Commerce are increasingly working alongside the Council and Highlands and Islands Enterprise (HIE) actively promoting this expertise, allowing the area to maximise the economic benefits to the Highland community. Closer to home, the Caithness and North Sutherland Regeneration Partnership (CNSRP) has been promoting the supply chain in Caithness and Sutherland.

8.51 The developers in this instance have formed a series of supply chain alliances which could potentially limit the scope for further construction and related activity being attracted to the Highlands. Only one, Subsea Seven, has a facility in the Highlands at Wester in Caithness. Some debate continues about the potential site of a turbine manufacturing location in the Highlands, but at present Siemens, one of SSE's supply chain partners seem to be favouring the location of a turbine manufacturing facility on the Humber. The applicant does however identify some key opportunities relating to the supply chain in the Highlands. These could have significant employment and economic development potential. The port infrastructure in east Highland, as reflected in the National Renewables Infrastructure Plan (NRIP), is particularly well developed. Sites such as Nigg and the Invergordon Service base are considered to be well suited to undertake roles within construction and operation. The Port of Ardersier is another substantial potential facility within Highland that could fulfil this role. In terms of operation and maintenance, Wick is particularly well located geographically to the development and would be a logical location to establish support facilities, with not only good maritime access but also close proximity to an established aerodrome giving it a distinct advantage.

8.52 The ES also considers the potential impact upon the Highlands most important sector; tourism. Quite rightly it places particular emphasis upon the impact on Caithness and Sutherland coastal communities, being closest to the development. The applicant does not see any particular adverse impact upon the area's tourism industry, quoting studies that looked at visitor perceptions of (onshore) wind farms, the conclusions of which were that while respondents did not particularly like them in the scenery, only a small minority considered their presence as a hindrance to making return visits. It could be argued that an offshore wind farm in this location may provide additional interest to the seascape and may becoming a visitor attraction in its own right.

9.0 CONCLUSION

9.1 The Development Plan and national planning policy support renewable energy development where projects can be located without undue environmental or amenity impact. The Highland Renewable Energy Strategy considers this part of the Moray Firth as a suitable site for offshore wind development.

9.2 Some representations made against this application indicate general misgivings of this type of technology and doubt as to the potential economic benefits to the

communities affected. In addition, representations against highlight conflict with protected species and effects on the seascape and visual impact, both as a result of this development and in combination with the neighbouring MORL development.

9.3 As is evident from the assessment however, many of the impacts of the proposed development could be adequately controlled through both the mitigation measures proposed or through conditions of consent; conditions which the Council could have a useful influence on. The most significant residual effect from the Council's perspective is likely to be the impact on visual amenity and potentially its link to tourism.

9.4 The acceptability of the proposals with regard to their visual impact is largely a subjective matter. Although the visualisations submitted in support of the application demonstrate likely worst case scenario, regardless of the final designs, there will still be a significant effect from many of the communities closest to the development. It will introduce significant change to the area. While the effects on residential amenity will to the majority be peripheral, the presence of a large wind farm, or farms, on the horizon may to some not be desirable. There is however a reasonable expectation that communities with wind farms "on their horizons", should be able to see this offset by employment opportunities. This may assist with softening the visual imposition.

9.5 As opinion on what influences tourists to visit an area is invariably linked to visual impact, it is appropriate to consider effects on tourism. Tourism is an important sector for the Highland economy. No studies have blamed the existence of wind farms as a reason for a decline in tourist numbers, yet a development of this scale may well be perceived as having a negative effect on the tourist economy. Although it may be that some will be deterred from returning to the area, given the range of activities pursued by visitors to Caithness it is not considered that the proposal would be significantly detrimental. While sea views will be affected the character of the area, its open skies and broad horizons, will remain. It is also possible that a development such as this could become an attraction in its own right, such as has happened at Scroby Sands near Great Yarmouth. It would also be fair to say that this perception of negative effect is likely to be overcome if there is evidence of direct employment opportunities within the area visited.

9.6 The benefits of the proposal must be weighed against potential drawbacks and then considered in the round. The project carries with it considerable support in principle by virtue of the Government's policy position and the higher targets for renewable energy production. The development will be capable of generating up to 1,000 MW of electricity by 2020. At this scale the development will make a considerable contribution to installed capacity targets for renewable energy and therefore the Government's aspiration for a low carbon economy.

9.7 In addition, the project brings with it considerable capital spend that, despite a supply chain already having been established, still has potential for direct and indirect economic benefit to the Highlands. This could extend not only to construction but also operation of the development. This is welcomed.

9.8 The Council's Programme "Working Together for the Highlands" commits the Council to supporting the creation of quality jobs in the Highlands, and supporting key industries. It recognises the important role that renewable energy can play in the continuing development of the Highlands as a centre for research and development, fabrication and engineering. Although the developer has in place some of its supply chain it is important that they continue to work closely with the local communities and supply chain in the Highlands to ensure that the area gains a significant share of the construction element of the development. There is still scope for this.

9.9 Subject to maximising the amount of GVA available to Highland, to the utilisation of Highland ports and the Highland supply chain, it is considered that the visual and associated effects of the development to the Caithness and North Sutherland area can be outweighed by this potential economic benefit.

9.10 On this basis, it can be concluded that the proposals would not have a significant detrimental impact and therefore comply with the Development Plan.

10. RECOMMENDATION

It is recommended that the Council **Raise No Objection** to the proposal subject to the following:

1. No development shall commence on any Phase until the Council has been consulted, and given its considered opinion, on the design and layout options for that Phase having taken into consideration the design and layout of the neighbouring Phases and/or Beatrice wind farm.

2. No development shall commence on any Phase until the Council has been consulted, and given its considered opinion, on the lighting requirements for the chosen design and layout options for that Phase having taken into consideration the design and layout of the neighbouring Phases and/or Beatrice wind farm.

3. No development shall commence on any Phase until a TV and radio reception mitigation plan has been submitted to, and approved in writing by, the Planning Authority. The plan shall provide for a baseline TV reception survey to be carried out prior to the commencement of turbine installation, the results of which shall be submitted to the Planning Authority. Within 12 months of the Final Commissioning of the development on each Phase, any claim by any individual person regarding TV picture loss or interference at their house, business premises or other building, shall be investigated by a qualified engineer appointed by the developer and the results shall be submitted to the Planning Authority. Should any impairment to the TV signal be attributable to any development Phase, the developer shall remedy such impairment so that the standard of reception at the affected property is equivalent to the baseline TV reception.

4. The applicant shall maximise the amount of GVA in terms of employment and associated economic activities that comes to the Highlands, as a result of the construction phase of the project.

5. The applicant shall continue dialogue with the Highland's renewable energy supply chain and its ports and harbours, including Wick as a potential operation and maintenance facility.

6. The applicant shall continue to work with the relevant public and private sector bodies in the Highlands to ensure that the area achieves maximum socio-economic returns from the development.

7. The applicant shall continue to examine the potential for a turbine manufacturer to locate in the Highlands.

8. The applicant pursue opportunities, for a visitor centre within Caithness and/or visitor interpretation facilities along the East Caithness/ Sutherland coastal route.

9. The applicant shall continue its involvement and commitment to the now established Moray Offshore Wind Developer Fisheries Working Group, the fishing industry liaison group established by way of mitigation that includes representatives of the Highland fishing community.

Signature: Malcolm MacLeod

Designation: Head of Planning and Building Standards

Author: David Mudie, Team Leader – Development Management (01463) 702255

Appendix 1 – Letters of Representation Against

Surname	Address
Thomson	Lossiemouth
Graham	Beauly
Davies	Kilmarnock
Powell	UNKNOWN
Jackson	Uplawmoor
Lindsay	UNKNOWN
Phillips	Newbury
Bowie	UNKNOWN
Langlands	Cannee
Terry	Pinmore
Macmillan	Ross-shire
Scotter	York
Siddler	UNKNOWN
Pumfrett	UNKNOWN
Waterworth	Castle Douglas
Ann	Huntly
Page	UNKNOWN
Williams	Beauly
Williams	Beauly
Tubb	Golspie
Graham	Moray
Graham	Moray
MacDonell	Dingwall
Metzler	Lossiemouth
Davis	UNKNOWN
Simpson	Huntly
Hurry	Alford
Grady	Alford
Baker	Alford
Ross	Australia
Evans	Alford
Jamieson	Aberdeen
Whittaker	Helmsdale
Whittaker	Helmsdale
McAlis	Inverness
Campbell	On behalf of Beauly District Fishery Board
Kelly	on behalf of Wellbeck Estates and Langwell and Braemore Estates

Appendix 2 – Summary of Consultation Responses undertaken by Marine Scotland

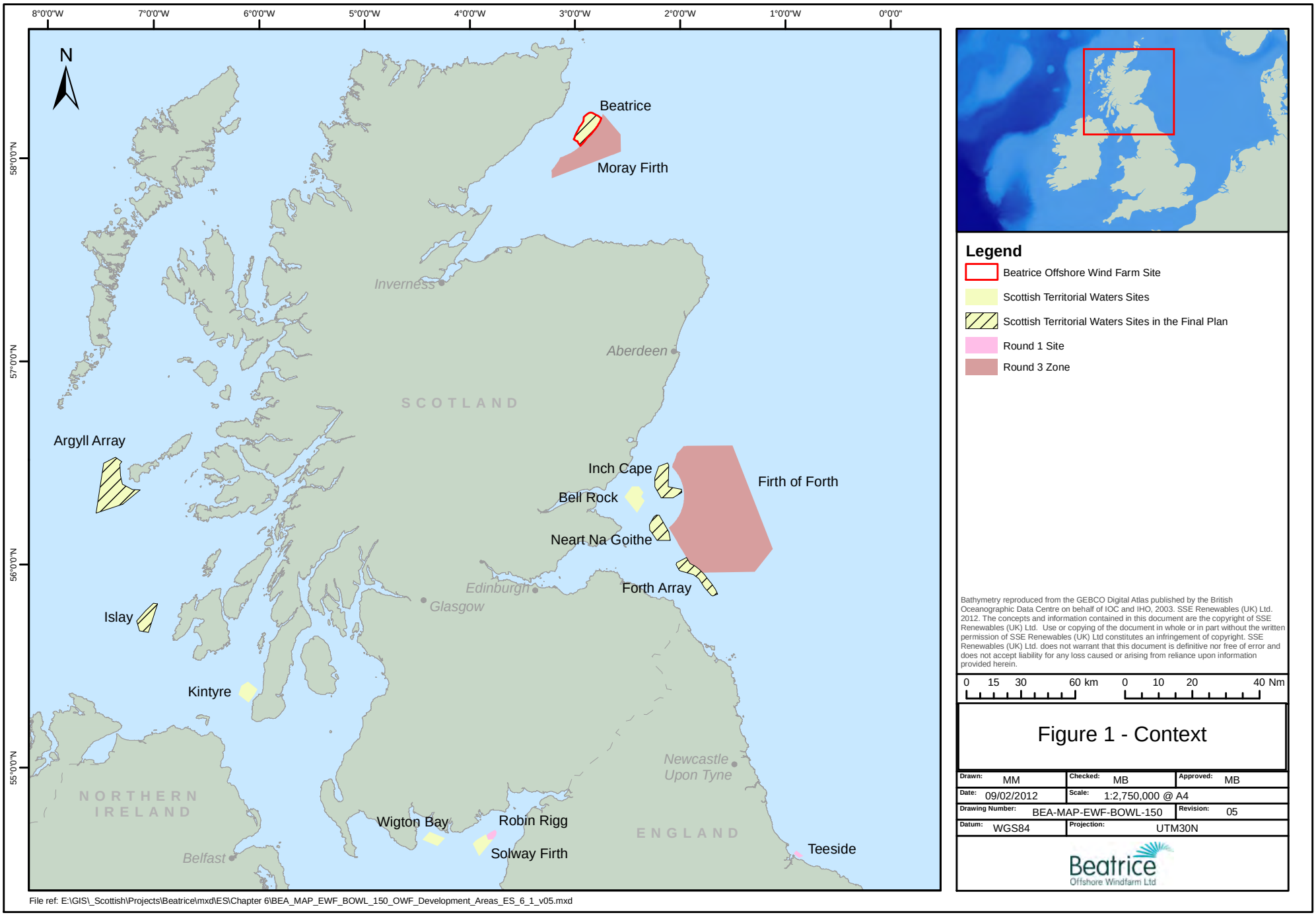
CONSULTEE	COMMENT
Statutory	
SNH/JNCC	In its response of July 2012, SNH/JNCC indicated that **<u>further information is required</u>** in order to complete the assessment; including the cumulative assessment with MORL. The required information related to Seascape, Landscape and Visual Impacts, Marine Fish Interests, Qualifying Interests of Special Areas of Conservation (SACs) and Qualifying Interests of Special Protection Areas (SPAs). (A series of meetings has occurred with BOWL and SNH/JNCC and the further information requested is included in the recently submitted addendum.)
SEPA	Satisfied with the proposals, provided conditions to protect the environment are attached to any permission.
Moray Council	No objection.
Other - external	
Association of Salmon Fishery Boards (ASFB)	**<u>Objects</u>** to the proposed development until adequate monitoring and mitigation is put in place.
Bond Offshore Helicopters	No comment.
Bristows Helicopters	No objection.
CHC Helicopters	No response.
MORL	Opposed to BOWL cable going through MORL zone. Identifies that submission of cumulative assessments may be different from those assessed by MORL.
Chamber of Shipping	Considers impacts on commercial shipping likely to be low. Requires clarification as to whether future collaborative work with MORL will be done. Identifies that straight line alignment of turbines as detailed in ES important mitigation measure to navigational safety. Possible concern with anchor interaction with cable routes. Considers that full rationale for the possible application for 50m operational safety zones should have been provided in ES. Any future application to DECC should include revised NRA.

Civil Aviation Authority – Airspace	Identify a requirement to notify UK hydrographic office so that charts can be updated. Identify the need to follow lighting requirements set out in Article 220 of the UK Air Navigation Order (ANO) 2009 and reflected in a related CAA Policy Statement. Recommend that all offshore obstacles (regardless of their location within or outside of territorial waters) that are over 60 m above sea level should be fitted with one medium intensity steady red light positioned as close as possible to the top of the obstacle.
Cromarty Firth Port Authority	No response.
Crown Estate	No comment.
Defence Estates	Subject to securing mitigation to overcome interference to the ATC radar at RAF Lossiemouth and lighting requirements MOD does not object to the proposal.
Health & Safety Executive	No comment.
Highlands and Islands Airports Ltd	No response.
Inshore Fisheries Group	No response.
Ithaca Energy	Insist that no turbines, substations or masts situated within 2.5 km of Jacky Platform. Insist that the wind farm export cables should not be laid/positioned within 1.5km of the Jacky or Beatrice B offshore platforms to allow positioning of a drilling rig anchor pattern for any future drilling works in the area.
BT Network Radio Protection	No objection.
Joint Radio Company	No objection.
Marine Safety Forum	No response.
Maritime & Coastguard Agency	Identifies omissions in the Navigation Risk Assessment (NRA). Other than this, the NRA provides a detailed review of the navigation risk, once identified concerns have been addressed, the MCA will be able to consider consent conditions for the various elements of application for the construction phase. Detailed Emergency Response plans will need to be presented and endorsed prior to any construction being consented.
Moray Firth Partnership	Although not in a position to respond collectively on the views of members, the following concerns have been notified by members:- 1. the potential effects on wildlife (particularly cetaceans, seals and seabirds) 2. visual impacts (day and night), and 3. tourism impacts

Moray Firth Sea Trout Project	**Objects** to the proposals until adequate monitoring to determine potential negative effects on sea trout and their prey and consequently for adequate mitigation to be deployed.
National Air Traffic Services (NATS)	**Objects** to the proposal as it conflicts with safeguarding criteria. 1. Allanshill Radar only 44nm away with limited terrain screening. Turbines likely to cause false primary plots. 2. Reduction of the primary radar's ability to detect small aircraft at low altitude in the airspace directly above the turbines.
Northern Lighthouse Board	NLB is unable to specify final marking and lighting requirements at this time as the number and layout of turbines, the number and location of offshore sub-stations and meteorological masts.
PA Resources UK LTD	No response.
Royal Yachting Association (Scotland)	No objection.
RSPB	RSPB Scotland **objects** to the proposals, as the ES does not contain up-to-date information on bird populations of designated sites which are most likely connected with the application area of at-risk bird species are not adequately considered. Collision risks are likely to be underestimated as a result. RSPB recommend that this proposal is considered in combination with all other projects and not just MORL.
Scallop Association	No response.
Scottish Canoe Association	No response.
Scottish Fishermans Federation	Indicates that impacts could be major on individual fishing businesses but as a body representing these business feels that it needs to make useful practical comment: 1. Vital to have clarity on many issues i.e. space between towers, cabling etc. 2. Would like Fisheries Working Group to produce a mitigation plan 3. Construction of all phases should be timed to create least impact on fishing. 4. Cabling should be designed to cause as little barrier as possible and buried, it should be checked for safety. 5. Developer should take into account concern over EMF, fishing vessel radar and agree responsibility for any debris or damage caused by development.
Scottish Fishermans Organisations	No response.
Scottish Wildlife Trust	No response.
Whale & Dolphin Conservation Society	Given the considerable uncertainties that remain if developments are allowed to proceed, it is important that at the very least a well-

	considered robust research monitoring strategy is in place to understand and recognise potential individual and population level impacts on both nationally and internationally important species. WDCS **objects** to the Beatrice Offshore Windfarm development **unless** the following conditions are imposed on the consent: • That an effective impact monitoring strategy is developed for the range of species that can reasonably be impacted; • That the monitoring strategy is appropriate to consider cumulative impacts including, but not limited to, the MORL development; • Collected data are made available to government, and all stakeholders, and that an adaptive approach is applied where development is halted should significant impacts be observed; and, • Quarterly monitoring of business impacts (for example, local marine wildlife watching boat operators, cetacean researchers (Cetacean Rescue and Research Unit (CRRU)) and visitor centres such as the WDCS Dolphin Centre) should be required. In addition, in order to ensure strict protection of cetaceans and other European Protected Species (EPS), it is essential that the Scottish Government commits to: • Prioritising the development of alternatives to pile driving; and until such technology is available: • Prioritising effective mitigation measures that do not introduce more noise pollution into the marine environment; • Alternative and mitigation technologies that develop in the timeframe before construction of Beatrice commences would need to be implemented; and, • Providing strong guidance to assist developers in meeting their environmental responsibilities, including through appropriately managing disturbance. WDCS requests that Marine Scotland include them in the consultation of the construction methods statement when available.
Other - Internal	
Historic Scotland	Historic Scotland is content with the predicted significance of effects within the ES for Cairn of Get and Hill O'Many Stanes scheduled monuments. In terms of Dunbeath Castle category A listed building and its associated designed landscape, HS consider that the significance of the effect on the setting of these assets would be 'minor adverse' as opposed to 'negligible'. HS is content with the findings of the ES in relation to the significance of effects on the remaining assets within its statutory remit which were assessed. Overall, we are content that there shall be no significant adverse direct, indirect or cumulative effects on terrestrial assets within our statutory remit, as a result of the proposed development.

	Historic Scotland is content with the assessment of potential impacts on marine archaeology and with the proposed mitigation strategy in relation to identified sites which have archaeological potential.
Marine Scotland Compliance	Nil return.
Transport Scotland: Ports & Harbours	No comment.
Transport Scotland	Transport Scotland has no objection to the proposed Offshore Wind farm development.
Marine Scotland Science	Marine Scotland has reviewed the submitted ES for the application and has provided comments on Physical Environment, Benthic Ecology, Fish and Shellfish Ecology and Commercial Fisheries. MSS has asked for further information (which is included in the recently submitted addendum).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N
Beatrice
Moray Firth
Inverness
Aberdeen
SCOTLAND
Argyll Array
Inch Cape
Bell Rock
Neart Na Goithe
Firth of Forth
Forth Array
Edinburgh
Glasgow
Islay
Kintyre
Newcastle
Upon Tyne
NORTHERN
IRELAND
Wigton Bay
Robin Rigg
Solway Firth
ENGLAND
Belfast
Teeside
Legend
Beatrice Offshore Wind Farm Site
Scottish Territorial Waters Sites
Scottish Territorial Waters Sites in the Final Plan
Round 1 Site
Round 3 Zone
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0 15 30 60 km
0 10 20 40 Nm
Figure 1 - Context
Drawn: MM
Checked: MB
Approved: MB
Date: 09/02/2012
Scale: 1:2,750,000 @ A4
Drawing Number: BEA-MAP-EWF-BOWL-150
Revision: 05
Datum: WGS84
Projection: UTM30N
Beatrice
Offshore Windfarm Ltd
File ref: E:\GIS_Scottish\Projects\Beatrice\mxd\ES\Chapter 6\BEA_MAP_EWF_BOWL_150_OWF_Development_Areas_ES_6_1_v05.mxd

4°0'0"W 3°30'0"W 3°0'0"W 2°30'0"W 2°0'0"W 1°30'0"W

58°30'0"N

58°0'0"N

N

40km

30km

20km

10km

MORAY FIRTH

Legend

- Beatrice Offshore Wind Farm Site
- Proposed Turbines
- 10km, 20km & 30km radii around Site
- 40km Study Area
- UK Territorial Sea Limit

Districts

- Aberdeenshire
- Highland
- Moray
- Orkney Islands

0 5 10 20 km

0 2 4 8 Nm

Figure 2 - Location and Layout

Drawn: MM	**Checked:** DL	**Approved:** WW
Date: 01/02/2012	**Scale:** 1:575,000 @ A3	
Drawing Number: BEA-MAP-EWF-BOWL-131		**Revision:** 05
Datum: OSGB36	**Projection:** BNG	

Beatrice Offshore Windfarm Ltd

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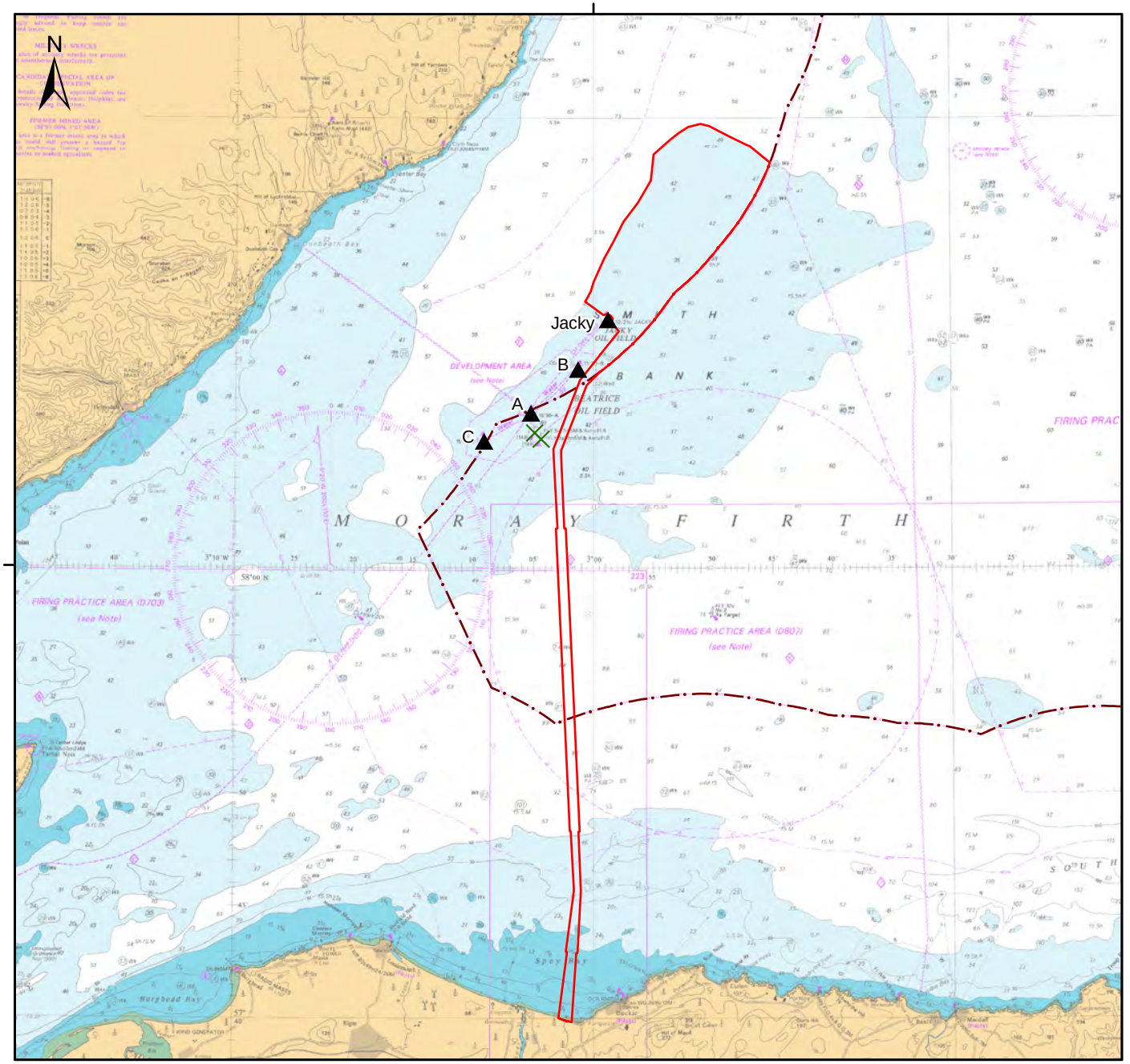

Legend

- Project Boundary
- Fixed Platform/Structure
- Existing Demonstrator Turbine
- Scottish Territorial Waters Boundary

0 3 6 12 km 0 1.5 3 6 Nm

Figure 3 - Existing Development

Drawn: MM	Checked: MB	Approved: MB	
Date: 09/02/2012	Scale: 1:500,000 @ A4		
Drawing Number: BEA-MAP-EWF-BOWL-148		Revision: 05	
Datum: WGS84	Projection: UTM30N		

Beatrice Offshore Windfarm Ltd

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