Agenda Item	5.8
Report No	PLN 009/18

HIGHLAND COUNCIL

Committee: North Planning Applications Committee

Date: 23 January 2018

Report Title: 17/05856/S36: Moray Offshore Wind (East) Limited

MacColl, Stevenson and Telford Offshore Windfarms

Report By: Area Planning Manager – South/Major Developments

Purpose/Executive Summary

Description: Application to vary the consent granted for the construction and operation of three offshore wind farms and associated electricity transmission works in the Outer Moray Firth to increase power output.

Ward: 3 - Wick and East Caithness

Development category: Major

Reason referred to Committee: Application submitted under s36 of the Electricity Act 1989

All relevant matters have been taken into account when appraising this application. It is considered that the proposal accords with the principles and policies contained within the Development Plan and is acceptable in terms of all other applicable material considerations.

Recommendation

Members are asked to agree the recommendation to **RAISE NO OBJECTION** to the variation as set out in section 11 of the report.

1. INTRODUCTION

1.1 The Council has been consulted by the Scottish Government (Marine Scotland) on an application, submitted under section 36c of the Electricity Act 1989, to vary the consent granted by Ministers in 2014 for the construction and operation of three offshore wind farms in the Outer 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 development, there is no automatic Public Local Inquiry.

2. PROPOSED DEVELOPMENT

2.1 The proposed development relates to three offshore wind farms (Telford, Stevenson and MacColl). The combined gross electrical output capacity for the three wind farms as consented is 1,116 MW.

2.2 The variation to the consent proposed relates to the electrical output of the windfarms, allowing an increase in capacity of each turbine from 8MW to 10MW. There would be no change to the physical turbine parameters.

2.3 Overall capacity for the Telford and Stevenson Offshore Wind Farms would remain capped at 372 MW but it is proposed that the cap for the MacColl Offshore Wind Farm is increased to 500 MW. No change is proposed to the maximum number of turbines that could be installed in the MacColl site however.

2.4 The increase in the maximum installed capacity to 500 MW in the MacColl site is subject to the proviso that that the installed capacity in MacColl can only exceed 372 MW where the overall maximum total installed capacity of the Telford, Stevenson and MacColl will not exceed 1,116 MW as originally consented.

2.5 The consent was granted on the basis of 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'. The final design for each wind farm is currently not defined with work continuing on refining the detail of the projects. MOW(East)L has stated its intention to include the Scottish Government, its agencies, and relevant Council's in discussions on the final design layouts.

2.6 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 339 wind turbines at a height of 162m to 189 wind turbines at 204m. Only one type and size of turbine will be used within each site, but different types of turbines may be used in different sites. This will allow the project to take advantage of advances in technology as the build programme progresses. The increase in capacity that has been applied for provides further options.

2.7 Pre-Application Consultation: No formal pre-application consultation undertaken.

2.8 Supporting Information: The applicant has submitted a statement in support of the application. Scottish Ministers consider that the change does not constitute EIA development as a result of their being no physical changes to the original consent and therefore no further assessment has been required.

2.9 Variations: None.

3. SITE DESCRIPTION

3.1 The proposal is located on the Smith Bank in the Outer Moray Firth, approximately 22 km (12 nm) from the Caithness coastline at its closest point as shown in Figure 1. The site, the Eastern Development Area (EDA), covers 520 km^2 (281 nm^2).

3.2 The development is located approximately 6km (3.2 nm) west of the Jacky and Beatrice oil fields; developments that comprise 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 12km (6.5 nm) from the MacColl wind farm site and 20km from the coast at Clyth.

3.3 The consented, and currently under construction, Beatrice offshore wind farm is located immediately adjacent to the Telford and Stevenson wind farm sites to the north-west.

3.4 There are no natural heritage designations on the site.

4. PLANNING HISTORY

4.1	19.03.2014	Application under S36 of the Electricity Act 1989 for the construction and operation of three offshore wind farms.	CONSENT GRANTED
4.2	27.03.2012	Erection of a 50m onshore meteorological mast, to gather data for the proposed Moray Offshore Renewables Ltd (MORL) wind farms in the Outer Moray Firth, on land south-west of Lybster (12/00397/FUL).	GRANTED PLANNING PERMISSION

5. PUBLIC PARTICIPATION

5.1 The application was advertised by Marine Scotland, on behalf of Ministers, on 21 December 2017. The closing date for representations is 28 February 2018.

5.2 No representations have been received by the Council at this time.

6. CONSULTATIONS

6.1 Given that there are no changes proposed to the physical parameters of the development no consultations have been undertaken.

7. POLICY

The following policies are relevant to the assessment of the application

Highland Wide Local Development Plan 2012

7.1 30 - Physical Constraints

31 - Developer Contributions

49 - Coastal Development

57 - Natural, Built & Cultural Heritage

58 - Protected Species

59 - Other important Species

60 - Other Importance Habitats

61 - Landscape

67 - Renewable Energy Developments

69 - Electricity Transmission Infrastructure

Scottish Government Planning Policy and Guidance

National Planning Framework

7.2 NPF 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

7.3 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.

7.4 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.

Scottish Energy Strategy: The Future of Energy in Scotland

7.5 Published in December 2017, the Strategy sets the ambition to fulfil commitments to achieving 100% of our electricity demand from renewables by 2020. The Strategy recognises that there is a need for a range of technologies to achieve this

and that offshore wind, which is now substantially cheaper than new nuclear electricity, is a key component of this.

7.6 The Strategy recognises the industrial and economic potential attached to offshore wind development, with a strengthening and expansion of the offshore wind supply chain that has built on Scotland's established oil and gas expertise and experience. As a result the Government is committed to continue to support and growth of the sector.

8. PLANNING APPRAISAL

8.1 This is not a planning application. However, the development shares 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.

8.2 This means that the proposal requires to be assessed against all policies of the Development Plan relevant to the application, all national and local policy guidance and all other material considerations relevant to the application.

8.3 Scottish Government Policy is strongly supportive of renewable energy development. The recently published Energy Strategy illustrates the Government's continued commitment to this in general as well as to the growth of the off-shore wind sector.

8.4 The Development Plan recognises the potential for renewable energy development in Highland. While the development plan does not specifically reference off-shore wind energy within policy, it does give 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 and navigation to name a few. Proposals need to demonstrate that they are not significantly detrimental to such concerns.

8.5 The Council raised no objection to the original consultation on this development having undertaken a thorough assessment of the proposal against the criteria identified within the development plan (Appendix 1). In this case, for this particular consultation that relates to a variation of an existing consent, there will be no change to the design parameters of the scheme.

8.6 The most significant residual effect of the development is its visual impact. This was recognised in the Council's initial consultation response (Appendix 2) which sought assurance that the Council would be involved in the final detailed design aspects of each of all three developments. The applicant has given a commitment to do this. This variation will provide greater flexibility to the developer to achieve an efficient design. The opportunity for the Council to have an influence on the design should also ensure that appropriate mitigation is achieved.

9. CONCLUSION

9.1 This consultation response relates to a variation to a consented off-shore wind development. The proposal will provide the developer with further flexibility in designing an efficient scheme but within the parameters of a scheme that has already been agreed. The opportunity for the Council to influence the detailed design of the development in the interest of visual amenity remains.

9.2 All relevant matters have been taken into account when appraising this application. It is considered that the proposal accords with the principles and policies contained within the Development Plan and is acceptable in terms of all other applicable material considerations.

10. IMPLICATIONS

10.1 Resource: Not applicable

10.2 Legal: Not applicable

10.3 Community (Equality, Poverty and Rural): Not applicable

10.4 Climate Change/Carbon Clever: Not applicable

10.5 Risk: Not applicable

10.6 Gaelic: Not applicable

11. RECOMMENDATION

It is recommended that the Council **RAISE NO OBJECTION** subject to the matters stated in the Council's consultation response to Ministers dated 22 March 2013 as set out in Appendix 2.

Signature: Dafydd Jones

Designation: Area Planning Manager – North

Author: David Mudie

Background Papers: Documents referred to in report and in case file.

Relevant Plans:

THE HIGHLAND COUNCIL

Agenda Item	5.5
Report No	PLN/027/13

NORTH PLANNING APPLICATIONS COMMITTEE – 19 March 2013

12/03359/S36, 12/03360/S36 & 12/03361/S36: Moray Offshore Renewables Ltd

Report by Head of Planning and Building Standards

SUMMARY

Description: Construction and operation of three offshore wind farms and associated electricity transmission works in the Outer Moray Firth.

Recommendation: - RAISE NO OBJECTION

Ward: 04 – Landward Caithness

Development category: Major

Pre-determination hearing: None.

Reason referred to Committee: Manager's discretion

1.0 INTRODUCTION

1.1 The Council has been consulted by the Scottish Government (Marine Scotland) on applications submitted under section 36 of the Electricity Act 1989 and Part 4 of the Marine and Coastal Access Act 2009 to construct and operate three offshore wind farms in the Outer Moray Firth. A further consultation on an application under sections 65 and 66 of the Marine (Scotland) Act has also been received for the associated offshore transmission works.

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 January 2010, Moray Offshore Renewables Limited (MORL) was awarded a Zone Development Agreement by The Crown Estate for the development of an offshore wind farm within the Moray Firth Zone; one of two Zones identified in Scotland as part of the Crown Estate Round 3 offshore wind leasing programme[1]. Detailed analysis of the Zone identified two separate development areas, the Eastern Development Area (EDA) and the Western Development Area (WDA)

[1] The other Scottish Round 3 Zone is in the Firth of Forth

(Figure 1). A decision was taken to develop the EDA first. In the course of development of the Project, the EDA was split into three wind farm sites (Figure 2) and MORL has set up Special Purpose Vehicles to consent, construct, operate and maintain these sites. The Crown Estate granted a lease agreement for the EDA in December 2010. A grid connection agreement has been secured that will enable a design output capacity of 1,500MW (1.5GW).

1.4 Should MORL not construct the full 1,500MW within the EDA (the three proposed wind farm sites), then the development of the WDA may be pursued in order to achieve additional capacity. This would require a further application.

1.5 The developments proposed share 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:

- Three adjacent wind farms;

  Telford (12/03360/S36),
  Stevenson (12/03361/S36), and
  MacColl (12/03359/S36)

- Up to 6 AC Offshore Substation Platforms (OSP's)
- Up to 2 AC to DC converter Offshore Substation Platforms (OSP's)
- One meteorological mast
- Underwater cabling linking the turbines, OSP's and meteorological masts, including a cable route southward towards Fraserburgh.

2.2 The applications are supported by an Environmental Statement (ES). 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 has yet to be determined. Having said that, considerable concept engineering work has already been undertaken to inform the ES on a range of likely scenarios. 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'. Although work continues on refining the project concepts, the exact final design will not be known until sometime after consent is given. MORL has stated its intention to include Scottish Government and relevant Council's when finalising plans.

2.3 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 339 wind turbines at a height of 162m to 189 wind turbines at 204m. Only one type and size of turbine will be used within each site, but different types of turbines may be used in different sites. This will allow the Project to take advantage of advances in technology as the build programme progresses.

2.4 The turbines will be supported by substructures and foundations which hold them in place on the seabed. Two main foundation and substructure concepts, the Gravity Base Structure (GBS) on a gravel bed and the Jacket Structure with pin piles are proposed (Figure 3). The generic GBS is composed of a hollow concrete base and a steel monopole top–piece. Part of the GBS may penetrate the seabed. The concept requires the dredging of an area of seabed to allow the installation of a flat gravel bed to provide a stable foundation for the GBS. It is expected that the area of seabed which is excavated will be greater than the final area of the laid gravel bed, up to a radius of 95m. Scour protection (see below) is likely to be used around the concrete base.

2.5 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 eight offshore substation platforms (OSPs). These structures will be approximately 70m above water line and 100m in diameter.

2.6 Construction of the three proposed wind farms and the transmission infrastructure is expected to take six years from commencement of the transmission infrastructure works to final commissioning of the wind farms. This assumes a sequential approach to the development; construction of each single wind farm site taking up to two years. Construction of the first site is expected to commence in 2015, with the installation of the first AC OSP, and the completion of the third site in Autumn 2020. The construction schedule will be 24 hours a day, 365 days a year.

2.7 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. A draft decommissioning plan has been included within the ES but it is anticipated that this will be revisited, and therefore subject to further consideration, prior to decommissioning. A decision may be taken in the 15 – 20 year period of operation on whether the development should be re-powered.

2.8 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 22 km (12 nm) from the Caithness coastline at its closest point as shown in Figure 1. The site, the Eastern Development Area (EDA), covers 520 km^2 (281 nm^2).

3.2 The development is located approximately 6km (3.2 nm) west of the Jacky and Beatrice oil fields; developments that comprise 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 12km (6.5 nm) from the MacColl wind farm site and 20km from the coast at Clyth.

3.3 The proposed Beatrice offshore wind farm is located immediately adjacent to the Telford and Stevenson wind farm sites to the north-west (Figure 4). This development will be considered separately.

3.4 There are no natural heritage designations on the site. However, there are a number of important designations located along the Highland coastline. 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.

3.7 There are two Special Landscape Areas within the study area; Duncansby Head (38km from Telford wind farm site) and Flow Country and Berriedale Coast (35km from Stevenson wind farm site).

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
- Forse House Hotel
- The Whaligoe Steps
- Dunbeath Portomin Harbour
- 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:

<u>Approved/Operational</u>

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

<u>Submitted</u>

- Dunbeath
- Halsary
- Bad a Cheo

4.0 PLANNING HISTORY

4.1 **27.03.2012** – Planning permission granted for the erection of a 50m onshore meteorological mast, to gather data for the proposed Moray Offshore Renewables Ltd (MORL) wind farms in the Outer Moray Firth, on land south-west of Lybster (12/00397/FUL).

5.0 PUBLIC PARTICIPATION

5.1 The applications were advertised on 28 August, 04 September and again on 26 October and 02 November 2012.

5.2 Only one representation has been received directly by the Council. This was from the Royal Society for the Protection of Birds (RSPB) and is essentially a copy of its consultation response to Scottish Government (Marine Scotland). Marine Scotland has received eight letters of representation against the proposals, five of which

come from within Highland; one individual and four organisations.

5.3 Issues raised are summarised as follows:

- No need – there are other means such as tidal
- Poor return for investment – value for money
- Safety for workers – access and conditions unsafe
- Underpowered turbines for the site – should be future proofed
- No meaningful jobs for Scotland or UK manufacturing base
- Visual impact – individually and cumulatively
- Noise impact onshore
- Impact on MOD nautical and aeronautical activities
- Effect on marine life – individually and cumulatively
- Concerns relating to the studies undertaken with particular regard 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 Three letters of support have been received Scottish Government (Marine Scotland). The issues raised are:

- Positive step to reduce Scotland's carbon footprint
- Positive economic benefit i.e. direct employment in the area
- Offshore wind offers greater efficiency, economy of scale and has fewer impacts than onshore wind

5.5 A list of those who made representation on the application is set out in Appendix 1.

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 Beatrice wind farm, particularly from Sarclet and the potential noise generated dependent upon meteorological conditions.

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**: No response received.

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.

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) Seascape, Landscape and Visual effects, taking into account residential amenity
g) 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 carbon balance and 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 MORL development alone would provide 1,500MW by 2020.

8.8 The Development Plan supports the broad principle of renewable energy development in this location, with HRES given 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 A number of 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 research is suggested. However, Marine Scotland has confirmed that preliminary advice from SNH and JNCC is that the development is unlikely to affect the viability of Atlantic salmon supported by these SAC's and that therefore MORL will not impact upon their integrity.

8.11 In its objection, RSPB takes the view that the ES underestimates the risk and potential impacts of the development on sea bird populations. It is understood from Marine Scotland that the preliminary advice from SNH and JNCC that further discussion on the ornithological studies presented within the ES are on-going. The outcome of this will inform the Appropriate Assessment.

Commercial Fisheries and Fishing Interests

8.12 Since the development will effectively restrict access to fishing grounds, both during construction and operation, the applicant has undertaken a study of the

effect of the proposal on commercial fishing interests. As commercial fishing within the Outer Moray Firth does form part of the Highland economy, it could have an effect on the Highland community. There are 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 however tend to be in-shore.

8.13 The three wind farm sites are located principally on scallop grounds and to a lesser extent squid grounds. There is a low level of whitefish activity within the site. The applicant has established that in reality activity within the area is relatively modest compared to elsewhere in the Moray Firth and very low on a national scale. While the ES identifies that from the perspective of the EIA Regulations the effects on commercially fished species within the MORL site will be minor and therefore not significant, the effect of the complete loss or restricted access to fishing for scallop and squid is considered to be moderate and therefore a significant effect. It is however a relatively modest area within the context of the Moray Firth as a whole with fishing recorded as being relatively sporadic. Nonetheless, with a small scallop fleet operating from Wick, this may be of some detriment in terms of displacement.

8.14 By way of mitigation, the applicant is looking at ways to facilitate fishing within the wind farm area both during and post-construction. This includes establishment of liaison group to allow continual dialogue between MORL and the fishing industry. The Scottish Fisherman's Federation (SFF) views the suggested mitigation outlined within the ES as critical to its interests. In addition, the applicant has highlighted that it is working with the offshore renewable industry, in consultation with the fishing industry, to explore potential modifications to bottom towed scallop fishing gear which may reduce the mutual risk posed by fishing activity within and around operation wind farms.

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

8.16 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. It is however an important sector of the Highland economy and therefore merits consideration.

8.17 The success of these fishing interests essentially rest with the success of the species as a whole. It has been highlighted by the Association of Salmon Fisheries Boards, along with its members who have commented on the application, that recently spring salmon numbers have been in decline. Quite rightly concerns are that the proposal may lead to further deterioration. The ES however considers that the only substantial issue that could have a bearing on this would be noise from construction. Even then this is not considered to be a significant effect in EIA terms. The preliminary advice from SNH and JNCC to Marine Scotland seems to confirm this position. In any case, the applicant has agreed, in consultation with Marine Scotland and relevant fisheries stakeholders, to undertake additional survey work and monitoring to increase confidence in its assessment and if required identify mitigation to reduce any likely effects.

Aeronautical and Maritime Safety

8.18 The three wind farms have potential to affect both civil and military aviation interests. The developments lie 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.

8.19 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.

8.20 Highlands and Islands Airports Limited (HIAL) while not objecting has highlighted that the turbines may affect the performance of aeronautical systems and instrument approach procedures for Inverness and Wick Airports. HIAL considers it necessary for the applicant to have further discussion and give reassurance that if required suitable mitigation measures will be put in place.

8.21 From a military perspective, MOD object to the proposal since there is potential for interference with its ait traffic control radar at RAF Lossiemouth. It is understood that the MOD has, however, recently removed its objection to impacts on its national air defence radar located at RAF Buchan.

8.22 Despite the applicant offering mitigation to overcome the issues around radar and instrument approach procedure matters, there remains some uncertainty regarding aircraft navigational safety. This is essentially down to the untested nature of the possible technical mitigation. Further work is required. The applicant is in discussion with NATS and the MOD to address these issues. 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 be infra-red.

8.23 Turning to maritime safety, the main shipping route passes some 4nm to the north east of the development (The Pentland Firth route). The applicant does not see a need for commercial navigation through the wind farm area unless planned in advance. Collision frequency is considered low.

8.24 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 modelling undertaken estimates that this could be 1 collision in every 16 years. However this modelling is based on extremely conservative assumptions. The applicant believes that in reality the scale of vessel is likely to be similar to the current vessels using the area which would be able to navigate within the wind farm area. The wind farm is therefore considered to have a minor effect on shipping interests.

8.25 The Chamber of Shipping has identified no major concern with the proposal. 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

8.26 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.

Seascape, Landscape and Visual Impact

8.27 The applicant has undertaken a Seascape, Landscape and Visual Impact Assessment (SLVIA) to determine the likely significant effects of the combined wind farms and offshore transmission infrastructure. This assessment is based on a 'worst case' which is considered to be the largest turbine height (7MW, 204m height to tip) and densest spacing throughout (Figure 5).

8.28 The effect of the three proposed wind farm sites has been assessed as not significant on landscape/seascape character. Landscape elements will not be physically altered. Changes arise principally through visibility from the Caithness coast. In terms of the preliminary advice to Marine Scotland it is understood that SNH agrees with the conclusions of the ES in this respect in that MORL's distance from the shore, the activities and focus of receptors along the coast/within the coastal hinterland, and intermittent windows of visibility (needed to clearly see the development) mean that it will not dominate the Caithness coastal and landscape character. SNH's preliminary advice is also that it considers that 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. The proposal could therefore be said to introduce a distant offshore wind farm that will become a characteristic element on the open sea skyline.

8.29 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 three proposed wind farm sites. This shows that 201 to 216 turbine blade tips will be visible from the majority of the Caithness coastal edge between Duncansby Head and Helmsdale at distance of 22km to 40km. There is no visibility of the development from the majority of the flat peat lands in central Caithness. In the intervening sections of hinterland of rising ground 201 to 216 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. In the south views are more elevated but again over longer distances.

8.30 The applicant has undertaken an assessment of the visual effects from a number of viewpoints, 15 of which are within Highland. 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 6. 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; Catchory (VP13), Keiss (VP2), Wick (VP4), Dunbeath (VP9) and Navidale (VP12).

8.31 In the viewpoint assessment undertaken, significant visual effects were identified on seven viewpoints located in the closest section of Caithness between Wick and Dunbeath. These viewpoints are at Wick (VP4), Sarclet (VP5), Whaligoe Steps (VP15), Hill O'Many Stanes (VP6), Lybster (VP7), Latheron (VP8) and Dunbeath (VP9), located at distances of 22 to 34 km from the three proposed wind farm sites. This is considered the core area affected.

8.32 The distance of the development from the shore, in combination with the wide spread of the three wind farms mean that the development itself does not form a focus in any of the views from the shore. This is a contrast to distance views of smaller onshore developments or the existing Beatrice Demonstration Turbines which form a narrow point of focus in the view. Rather, the three proposed wind farm sites appear to occupy a significant portion of the sea skyline, where the development forms a wide horizontal feature in relation to the seascape in the view.

8.33 Views of the development experienced from the A9/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 feature on the horizon on seaward views between Berriedale and Latheron on the A9 and Latheron and Thrumster on the A99.

8.34 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).

8.35 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).

8.36 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 aware of the development as they go about their daily lives. However, this effect on amenity will be no more significant than for receptors in general.

8.37 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 where lighting may be a distraction or confusion for drivers. Impacts will also seem higher in framed seaward views.

8.38 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 three proposed wind farm sites on the setting of cultural heritage assets is assessed within the ES as not significant. Historic Scotland has raised no concerns.

8.39 Turning to cumulative effects, the proposed development has potential not only to have in combination effects with the neighbouring proposed Beatrice development but also onshore wind development. The latter is particularly likely when travelling south on the A99 where it would be possible to view MORL along with Beatrice, Achairn, Flexhill, Wathegar, Wathegar 2 and Camster in a single view. The additional effect of MORL however would be limited since, as SNH puts it, it is more 'recessive' in the view with Beatrice standing in the 'forefront.' Cumulative effects with other developments, such as Dunbeath, Burn of Whilk and Stroupster will likely be sequential, as one travels through the area, but in the opposite view. Figure 7 contains details of the locations

8.40 Although it is considered that the proposal will not on the whole be significantly detrimental to residential amenity, it will introduce 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.

8.41 Cohesion of the three wind farms, and the neighbouring Beatrice development 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 affected by these factors and the final layout should seek to minimise any visual jarring. Ideally if smaller turbines are required for the first wind farm to be developed, these should be the most distant from shore to avoid confusion of perception that may arise if larger turbines sit behind them in the view.

8.42 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

8.43 The ES gives consideration to the socio-economic impact of the MORL 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.

8.44 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. In the construction phase, the base case value (i.e. assuming the current supply chain) for the wind farms and infrastructure as a whole in terms of Gross Value Added (GVA) for Scotland is assessed as being £312m. Of the £312m, the study area is likely to benefit to the tune of £113m (GVA). There would seem scope for the Highlands to significantly increase its share of the construction element of the development.

8.45 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.

8.46 While the applicant identifies key opportunities relating to the supply chain in the Highlands that could bring significant employment and economic development potential, these opportunities are yet to be developed. There is however recognition that 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.

8.47 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 While there have been very few received, representations 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, they 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 Beatrice 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 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 MORL development will be capable of generating up to 1,500 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 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. While the developer has yet to commit to a particular technology/manufacturer, it is important that they continue to work closely with the local communities and the 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, as many of the key supplier relationships are yet to be finalised.

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.

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Appendix 2 – Summary of Consultation Responses undertaken by Marine Scotland

CONSULTEE	COMMENT
Statutory	
SNH/JNCC	Preliminary advice has been given by SNH/JNCC to Marine Scotland. This can be summarised as follows: 1. SNH/JNCC do not identify any further information required from the applicant in respect of seascape, landscape and visual impact assessment (SLVIA). In respect of marine mammals, fish, benthic ecology and coastal processes, they are in current discussion with Marine Scotland regarding the consenting process, the cumulative impacts of MORL together with Beatrice, and the conditions that might be required for mitigating and / or monitoring the impacts of these proposals. 2. The effect of noise on Atlantic salmon and sea trout is assessed to be negative, of minor-moderate significance and probable. For sea / river lamprey the effect is estimated to be small, and for European eel, the effect is thought to be between medium and small. For these species, SNH/JNCC consider that noise disturbance to individuals will not result in population level effects. SNH/JNCC are in current discussion with MS to agree the required conditions for consenting. On the basis of existing knowledge, SNH/JNCC consider that the mitigation (cable burial / rock armouring) proposed in the ES will be sufficient to avoid any significant EMF effects on diadromous fish species. SNH/JNCC are in current discussion with MS to agree the required conditions for consenting. 3. In relation to SLVIA impacts the SNH preliminary advice is that the principal change arising due to MORL will be its visibility from the Caithness coast. There will be no intrinsic character change to the Caithness landscape. MORL's distance from the shore, the activities and focus of receptors along the coast / within the coastal hinterland, and intermittent windows of visibility (needed to clearly see the development) mean that it will not dominate the Caithness coastal and landscape character. Sea views from the Caithness and Sutherland coasts will change from an open, 'unpopulated' sea, with incidental marine traffic. In good weather, with clear visibility, MORL (at distances of 35+km) will read as a distant, linear feature on the horizon. Overall, 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. In a core area extending from north of Wick to Dunbeath, MORL will create a prominent 'landmark' on the open sea skyline, changing sea views. Impacts on the coastal character will be moderate. There will be a significant change in night time character of seas and skies within the core area. Within the core area there will be locally major impacts on specific viewpoints, scenic panoramas and places (especially elevated clifftop castles and landmarks). These

	form Caithness's coastal scenic resource. There will be locally major impacts on Dunbeath Castle Historic Garden and Designed Landscape. There will be no impacts on nationally designated landscapes. There will be negligible impacts on Duncansby Head Special Landscape Area (SLA) and locally moderate change to Berriedale Coast section of Flow Country and Berriedale Coast SLA. MORL will form a significant feature on the horizon in seaward views from the A9 between Berriedale and Latheron, for 14.5km; the A99 between Latheron and Thrumster, for 20km. It will have a locally major impact on views from the A9 at the Ord of Caithness and on keyhole views from road to sea at Ousedale; as well as on travellers eastwards on the A882. SNH's preliminary advice on the cumulative SLVIA impacts of MORL (the eastern development area) and Beatrice together is that Beatrice is the windfarm proposal which significantly develops the sea skyline, and MORL only marginally increases the influence and prominence of windfarm development on the horizon. MORL is consistently seen behind Beatrice and the two windfarms will appear to be a single development. As it is further offshore, MORL is constantly more 'recessive' in the view, with its image, scale and form consistent with Beatrice standing to the 'forefront'. SNH's preliminary advice is that in relation to the baseline assessment presented in the ES that the coastal character assessment methodology follows relevant guidance resulting in a comprehensive, clear and well-presented description and appreciation of the baseline landscape and coastal character of the East Coast and Moray Coast study area. The visual baseline and assessment is also well-considered and illustrated in the ES. 4. The main outstanding issue is impact assessment and Habitats Regulations Appraisal for key seabird species from a number of Special Protection Areas within foraging distance. SNH/JNCC are in discussion with Marine Scotland and MORL over this, and with both MORL and Beatrice regarding cumulative impacts.
SEPA	Satisfied with the proposals, provided conditions to protect the environment are attached to any permission.
Aberdeenshire Council	Aberdeenshire Council has not take a position in favour of or opposed to the development.
Moray Council	The Council has agreed to respond to the consultation from Marine Scotland raising no objection to the proposals. Members did however ask for information purposes only that the Moray Council be informed/provided with the specific aviation and nautical lighting scheme approved by Marine Scotland. It was noted from submissions that this would be finalised once a specific layout of turbines was known and following consultation as part of the Section 36 determination process.

Other - external	
Association of Salmon Fishery Boards (ASFB)	Objects to the proposed development
Bond Offshore Helicopters	No Response
BOWL	Supports the MORL proposal
Bristows Helicopters	No Response
BT Network Radio Protection	No Response
Chamber of Shipping	No major outstanding concerns regarding the proposals and therefore no objection, but highlight issues for consideration during the determination of the licensing decision 1. Request that MORL conducts post-consent consultation with navigational stakeholders, including the Maritime and Coastguard Agency (MCA), Northern Lighthouse Board (NLB) and Chamber, on final turbine layouts for each of the three sites. 2. The projected deviation of the route between the Moray Firth and northern Norway/Russia (illustrated in Figure 9.2 of Appendix 5.2) may need to be reassessed given the location of the Beatrice wind farm site. Although the revised route adjustment may be minor, it is considered that any projected route deviations should take the cumulative impacts of nearby developments (in this case Beatrice) into account. 3. Satisfied that sufficient clearance between the eastern site boundaries and the main Pentland Firth route to the north-east will be achieved. 4. The decision not to develop the west of the zone alleviates the impact on shipping and navigation in the region, particularly with regard to vessels engaged in activity related to the nearby Beatrice and Jacky oil fields. This decision had significantly reduced navigational safety concerns regarding the proposed wind farms. 5. Pleased to note that marking and lighting are to be agreed with the NLB, in line with IALA requirements. As noted above, NLB guidance on preferred turbines layouts should also be sought. 6. Removal of floating foundation options from the project envelope has alleviated the Chamber's concerns regarding the unique safety challenges presented by these technologies. 7. Clarification is required regarding the likelihood of future applications for operational safety zones, including information on the proposed size of these zones. A number of options designed to reduce the negative navigational impacts of operational safety zones have recently been tabled at meetings of the Department for Transport (DfT) chaired Nautical and Offshore Renewable Energy Liaison (NOREL) group. MCA guidance should be sought on this issue.
Civil Aviation Authority – Airspace	Having reviewed the Environmental Statement provided, the appropriate aviation consultees (NATS/NERL, HIAL/Wick Airport, the Offshore Helicopter Operators and MOD/DIO) have been consulted.

	Please be aware that the Policy Statement - The Lighting of Wind Turbine Generators in United Kingdom Territorial Waters contains some information that has been superseded by edition 7 of CAP437. The Policy Statement will be re-issued in due course to reflect this correction as well as to reflect guidance regarding the potential use of flashing red Morse Code Letter 'W' aviation warning lighting to resolve potential issues for the maritime community. In addition to the above lighting requirements there is also a requirement, as already identified within the ES, to ensure that positions and maximum heights of wind turbines, meteorological masts and construction equipment are provided to the UK Hydrographic Office for maritime charting and subsequent forwarding to the Defence Geographic Centre for aviation charting purposes.
CHC Helicopters	No response received
Cromarty Firth Port Authority	No comment
Crown Estate	No response received
Defence Estates	**Objects** on the basis that the proposal will be detectable by and will cause unacceptable interference to the ATC radar at RAF Lossiemouth **Objects** on the basis that the proposal will be detectable by and will cause unacceptable interference to the AD radar at RAF Buchan
Health & Safety Executive	No comment
Highlands and Islands Airports Ltd	These developments would not infringe the safeguarding surfaces for Inverness or Wick Airports. However, the turbines could possibly affect the performance of electronic aeronautical systems and the instrument approach procedures for these airports. HIAL would not wish to see a degradation of any of these services, particularly the Radar installation at Inverness Airport. It is recognised that the project has a high positive profile with the public, and within the Scottish Government, with substantial potential benefits to the economy. HIAL are fully aware of the need to meet, and reach agreement, with the developer to gain assurance that the electronic systems and approach procedures would not be degraded. Due to the height and positions, red aviation warning lights may be required to be fitted at the hub height of some of the turbines. As a minimum the Civil Aviation Authority (CAA) recommend that all proposed developments over 90m in height should be notified to the CAA. Provided that these conditions are met Highlands and Islands Airports Limited are unlikely to object to these developments.

Inshore Fisheries Group	No response received
Ithaca Energy	No objection, but would like to make the following general comments; 1. To ensure impact on the use of helicopters for safe evacuation of offshore personnel, no turbines, offshore substation platforms or meteorological masts should be erected within 2.5km of Beatrice Alpha, Bravo, Charlie or Jacky Platforms. 2. The wind farm export cables should not be laid/positioned within 1.5km of the above mentioned offshore platforms to allow positioning of a drilling rig anchor pattern for any future drilling works in the area.
Joint Radio Company	Cleared with respect to radio link infrastructure operated by:- Scottish Hydro (Scottish & Southern Energy) and Scotia Gas Networks JRC analyses proposals for wind farms on behalf of the UK Fuel & Power Industry and the Water Industry in north-west England. This is to assess their potential to interfere with radio systems operated by utility companies in support of their regulatory operational requirements. In the case of this proposed wind energy development, JRC does not foresee any potential problems based on known interference scenarios and the data you have provided.
Marine Safety Forum	No response received
Maritime & Coastguard Agency	The development of the 3 wind farms independently raises significant concerns over the ability to effectively mark and light. The Rochdale envelope approach is noted however, final layout will be subject to consent and approval from the navigation safety perspective. No authorised development seaward of MHWS shall commence until Marine Scotland, in consultation with the MCA, has confirmed in writing that the developer has taken into account and adequately addressed all MCA recommendations as appropriate to the authorised development contained within MGN371 "Offshore Renewable Energy Installations (OREIs) - Guidance on UK Navigational Practice, Safety and Emergency Response Issues" and its annexes. This confirmation will be embedded within a detailed letter of consent provided against formal project development plans as they are submitted. The comments above are not considered to be blocks to development, but provided to highlight areas where further information will be required in supporting the final consenting process. Subject to the developer meeting requirements addressed, this letter provides outline acceptance in principal of the licence and consent application.
Moray Firth Partnership	No response received

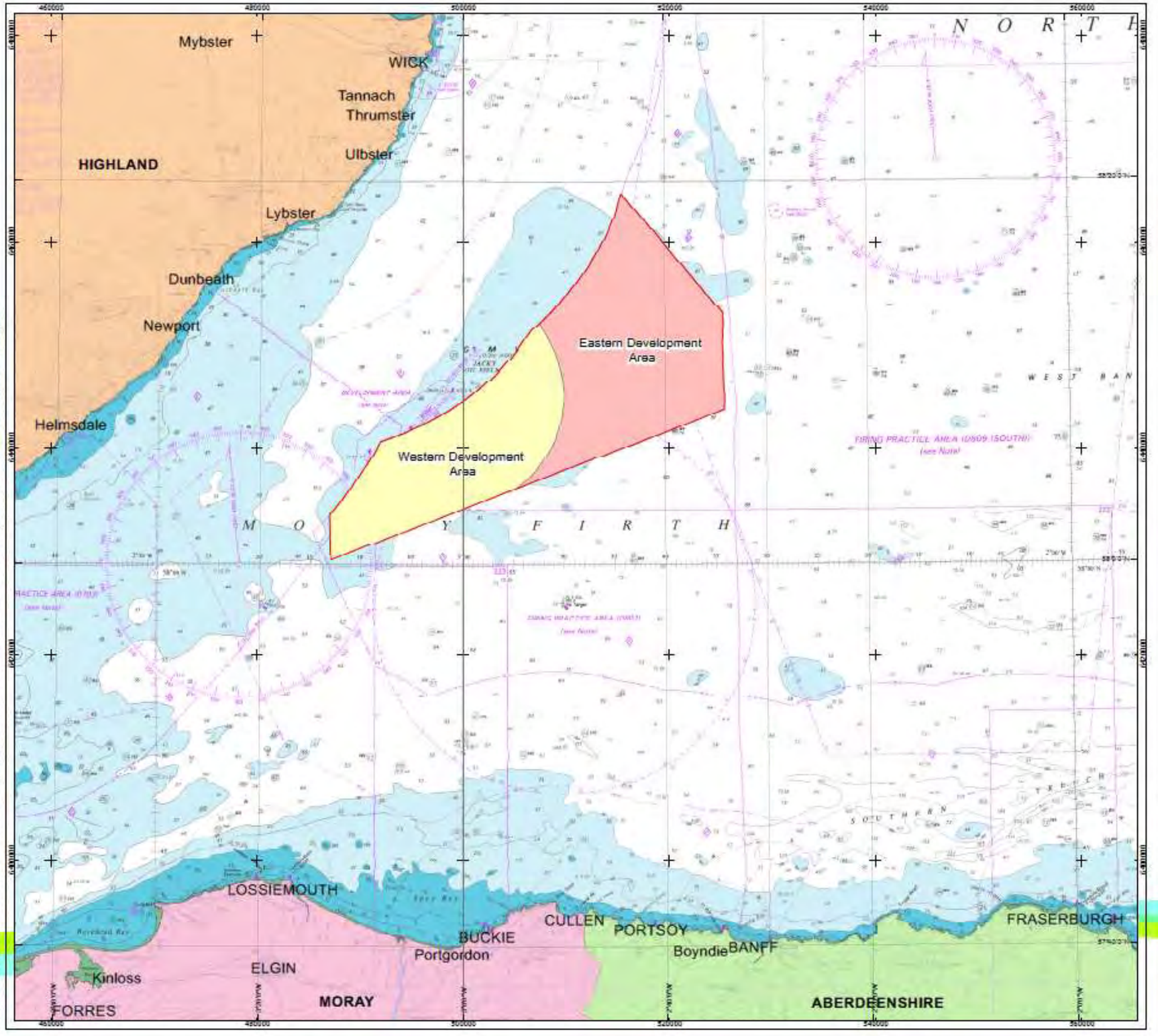
Moray Firth Sea Trout Project	Although the Moray Firth Sea Trout Project welcomes the assumption that sea trout do use the development area we do however think that the cumulative impact of the various potential negative effects has been underestimated. There still appears to be a significant risk that the development will displace feeding sea trout during the construction phase and that the impact of construction and operation of the site could negatively effect sea trout prey species. We do acknowledge that there is some doubt regarding how and when sea trout use the area and therefore seek further survey work and monitoring, as required by MSS, to determine how sea trout do use this area, potential areas of conflict and required mitigation. Likewise further monitoring is required to determine the potential impact on prey species, in particular the impacts on sandeel and herring which have been dismissed as minor on limited data. In light of the above the MFSTP **objects** to the proposals until there is commitment to a specific surveys and 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)	The proposed development has been examined by our technical safeguarding teams and conflicts with our safeguarding criteria. Accordingly, NATS (En Route) plc **objects** to the proposal.
Northern Lighthouse Board	Marking and lighting of each site will be required for each of the three phases of wind farm life, namely the construction, operational and de-commissioning phases, to give the best possible indication to the mariner of the nature of the works being carried out. 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, and cumulative impacts with regard to the Beatrice Offshore Wind Farm are unspecified in this application. NLB can however give an indicative proposal of what may be required. <u>Construction Phase</u> To ensure that the mariners are adequately warned of the construction site, its progress and growth; during the construction phase we require that the site boundary by Cardinal Mark buoys (number to be determined when final layout is known). The Cardinal Buoys shall be a minimum of 3 metres in diameter at the waterline, have a focal plane of at least 3 metres above the waterline and be of suitable construction for the sea conditions commonly experienced in the Outer Moray Firth. The light range on these buoys shall be 5 Nautical Miles. All required buoyage shall remain in place until completion of this phase. During this construction phase, any vessel engaged in these works shall be marked in accordance with the International Rules for the Prevention of Collisions at Sea whilst under way, and in accordance with the Standard Marking Schedule for Offshore structures if secured to the seabed.

	Operational Phase We are unable to specify any final marking and lighting requirements owing to the lack of clarity in the licence application with regard to the number and layout of turbines, the number and location of offshore sub-stations and, the cumulative impacts with regard to the Beatrice Offshore Wind Farm. Final requirements will be specified once these are confirmed. In general terms, during the Operational Phase the windfarm site shall be marked and lit as per IALA Recommendation O-139 as follows: • The tower of every wind generator should be painted yellow all round from the level of Highest Astronomical Tide (HAT) to 15 metres or the height of the Aid to Navigation, if fitted, whichever is greater. • The structures designated as Significant Peripheral Structures (SPS) shall have lights visible from all directions in the horizontal plane. These lights should be synchronised to display a character of one yellow flash every 5 seconds, with a range of not less than 5 nautical miles. • Selected Intermediate Structures (IS) on the periphery of the wind farm should be marked with lights visible from all directions in the horizontal plane. These lights should be synchronised to display a character of one yellow flash every 2.5 seconds, with a range of not less than 2 nautical miles. • All lights shall be placed not less than 6 metres and not more than 30 metres above Mean High Water Springs (MHWS). • A sound signal shall be attached to each SPS and IS as to be audible upon approaching the wind farm from any direction. The sound signal should be placed not less than 6 metres and not more than 30 metres above MHWS and should have a range of at least 2 nautical miles. The character shall be rhythmic blasts corresponding to Morse letter 'U' every 30 seconds. The minimum duration of the short blast shall be 0.75 seconds. The sound signal shall be operated when the meteorological visibility is two nautical miles or less. All sound signals should be synchronised. • Each tower shall display identification panels with black letters or numbers one metre high on a yellow background visible in all directions. These panels shall be easily visible in daylight as well as at night, by the use of illumination or retro-reflecting material. • All navigation lights should have an availability of not less than 99.8% (IALA Category 1) over a rolling three year period. Sound signals should have an availability of not less than 97% (IALA Category 3) over a rolling three year period. • Offshore sub-stations and meteorological masts shall also be marked. Appropriate means of ensuring the required IALA Availability target for Category 1 AtoN is achieved through redundancy, monitoring and repair must be in place, and arrangements made to warn the mariner promptly of any AtoN fault and its subsequent return to fully

	operational service. Any existing Meteorological Masts within the site area will have marking and lighting amended to suit the final layout of the wind farm. The marking and lighting of the wind farm may require to be altered or amended to reflect the development of the adjacent Beatrice site in order to form a continuation of a suitable marking of the area occupied by turbines and sub-stations. The licence holder will be expected co-operate fully in this matter. We also require that once agreed, the final number, layout and positions of each of the wind turbine generators, along with that of any sub-sea infrastructure is communicated to the United Kingdom Hydrographic Office in order that all relevant nautical charts are correctly updated. It may also be necessary to mark the landfall site of the export cable routes depending on the location chosen after the OFTO process has been completed. We would then require that Lit Cable Marker Boards should be positioned as near as possible to the shoreline so as to mark the points at which the cable comes ashore. The Cable Marker Boards shall be diamond shaped, with dimensions 2.5 metres long and 1.5 metres wide, background painted yellow with the inscription 'Cables' painted horizontally in black. The structures shall be mounted at least 4 metres above ground level, with a navigation light flashing yellow once every five seconds (Fl Y 5s) mounted on the upward apex of the board. The nominal range of these lights should be 3 nautical miles, and they should have an availability of not less than 97% (IALA Category 3) over a rolling three year period. <u>Decommissioning Phase</u> When the site eventually reaches the end of its designed life, we would require that the Northern Lighthouse Board is consulted on the requirement for marking and lighting during this phase. <u>General</u> All navigational marking and lighting of the site or its associated marine infrastructure will require the Statutory Sanction of the Northern Lighthouse Board prior to deployment. These recommendations are based on the application documents and previously supplied documentation. NLB has considered the information contained within the documentation and have detailed all of the above requirements on the interpretation that the development will commence in the Eastern Development Area (EDA) with further considerations still to be met by the developers before construction phase work will commence in the Western Development Area (WDA). Please advise if we can be of any further assistance, or require clarification any of the above.
PA Resources UK LTD	No response received

Royal Yachting Association (Scotland)	The RYA agree with the parts of ES relating to shipping and navigation. However, it identifies some sections that, while not affecting the outcome, ought to be corrected.
RSPB	RSPB Scotland has identified technical issues in the environmental assessment that require further consideration. RSPB Scotland **objects** to the proposals, as currently presented within the application, on the basis that the environmental assessment underestimates risk and potential environmental impacts as: 1. Recent demographic trends of at-risk bird species are not adequately considered. 2. The cumulative impact assessment is incomplete and does not follow best practice. Its objection is precautionary and RSPB seeks further engagement with MORL and statutory authorities to provide advice and input to the assessment of ornithological interests.
Scallop Association	No response received
Scottish Canoe Association	No significant concerns
Scottish Fishermans Federation	**Objects** to this development until such time as it can be proved that its effects will not be totally detrimental to the fishing industry.
Scottish Fishermans Organisations	No response received
Scottish Wildlife Trust	No response received
Whale & Dolphin Conservation Society	WDCS considers that given existing levels of uncertainty, it does not agree that MORL can be confident that the development will have no significant impacts on harbour seals and European Protected Species.
Other - Internal	
Historic Scotland	Historic Scotland is content with the principle of the development, and considers there shall be no adverse direct, indirect or cumulative impacts on terrestrial or marine assets within its statutory remit of a significance that would warrant an objection. 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. No objection.
Marine Scotland Compliance	No response received
Transport Scotland: Ports & Harbours	No comment
Transport Scotland	Transport Scotland has no objection to the proposed Offshore Wind farm development subject to the following condition: 1. No part of the development shall commence until the impact of road-based traffic and transportation associated with the construction of the offshore wind farms and

	offshore Transmission Infrastructure (OfTI) has been considered to the satisfaction of the Local Roads Authority in consultation with Transport Scotland. Reason – To maintain the free flow and safety of the Trunk Road network.
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. It is its opinion that the developer has not provided sufficient information in several areas of the ES to allow sufficient assessment of the potential impacts. Accordingly MSS **objects** as the ES stands and looks for the issues to be addressed before approval is given to the project.



edp renewables

REPSOL

Moray Offshore Renewables Ltd

KEY

- MORL Zone Boundary
- Western Development Area
- Eastern Development Area

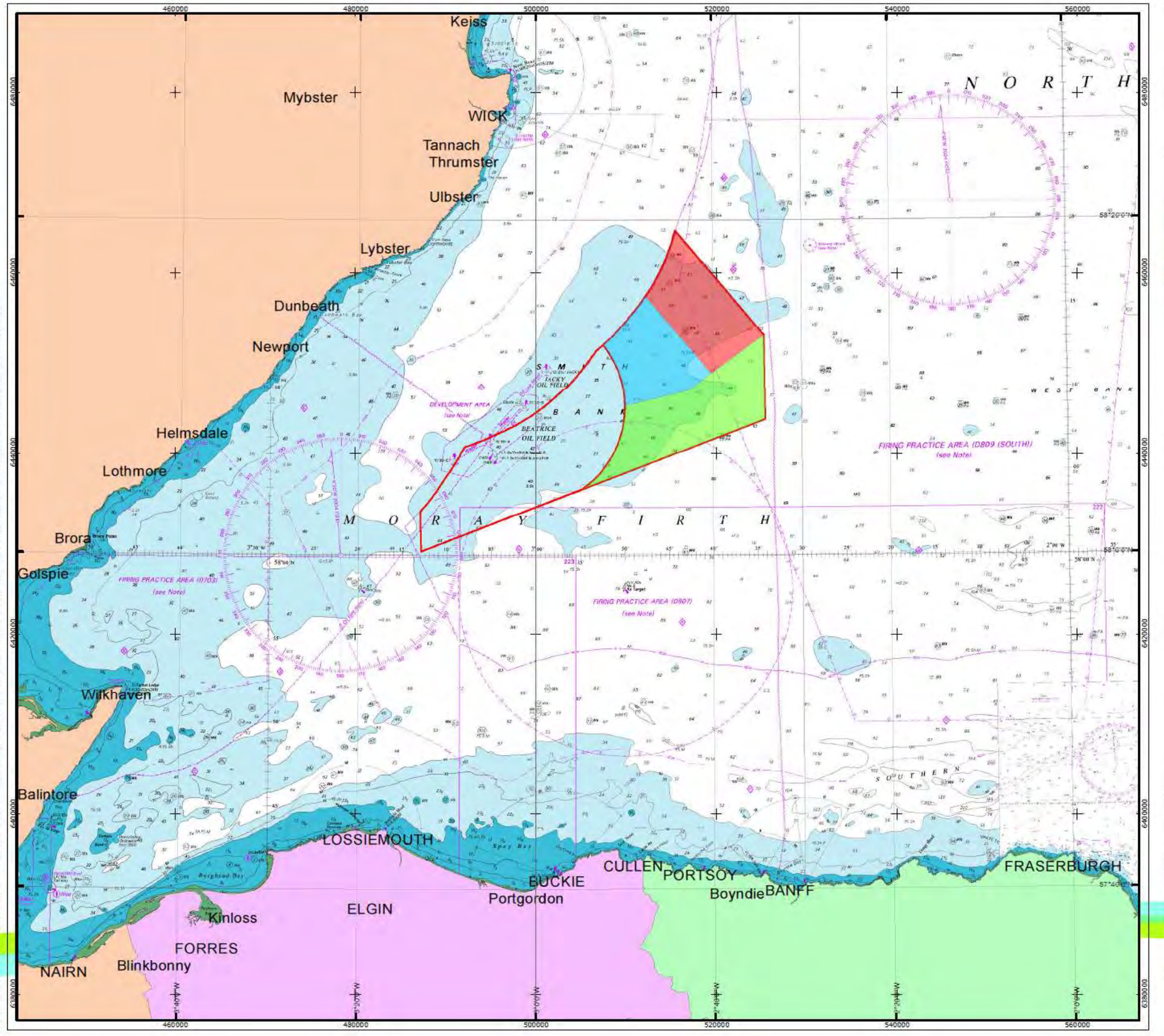
Horizontal Scale: 1:350,000 A3 Chart

0 7,500 15,000 Meters

Geodetic Parameters:	WGS84 UTM Zone 30N
Produced: PH Reviewed: PC Approved: SP	
Date: 13/06/2012	Revision: A
REF: 8460001-PPW0201-MOR-MAP-001	

Figure 1

Moray Offshore Renewables Ltd



renewables

REPSOL

Moray Offshore Renewables Ltd

KEY

- Telford Windfarm
- Stevenson Windfarm
- MacColl Windfarm
- MORL Zone Boundary

Horizontal Scale: 1:400,000 A3 Chart

0 10,000 20,000 Meters

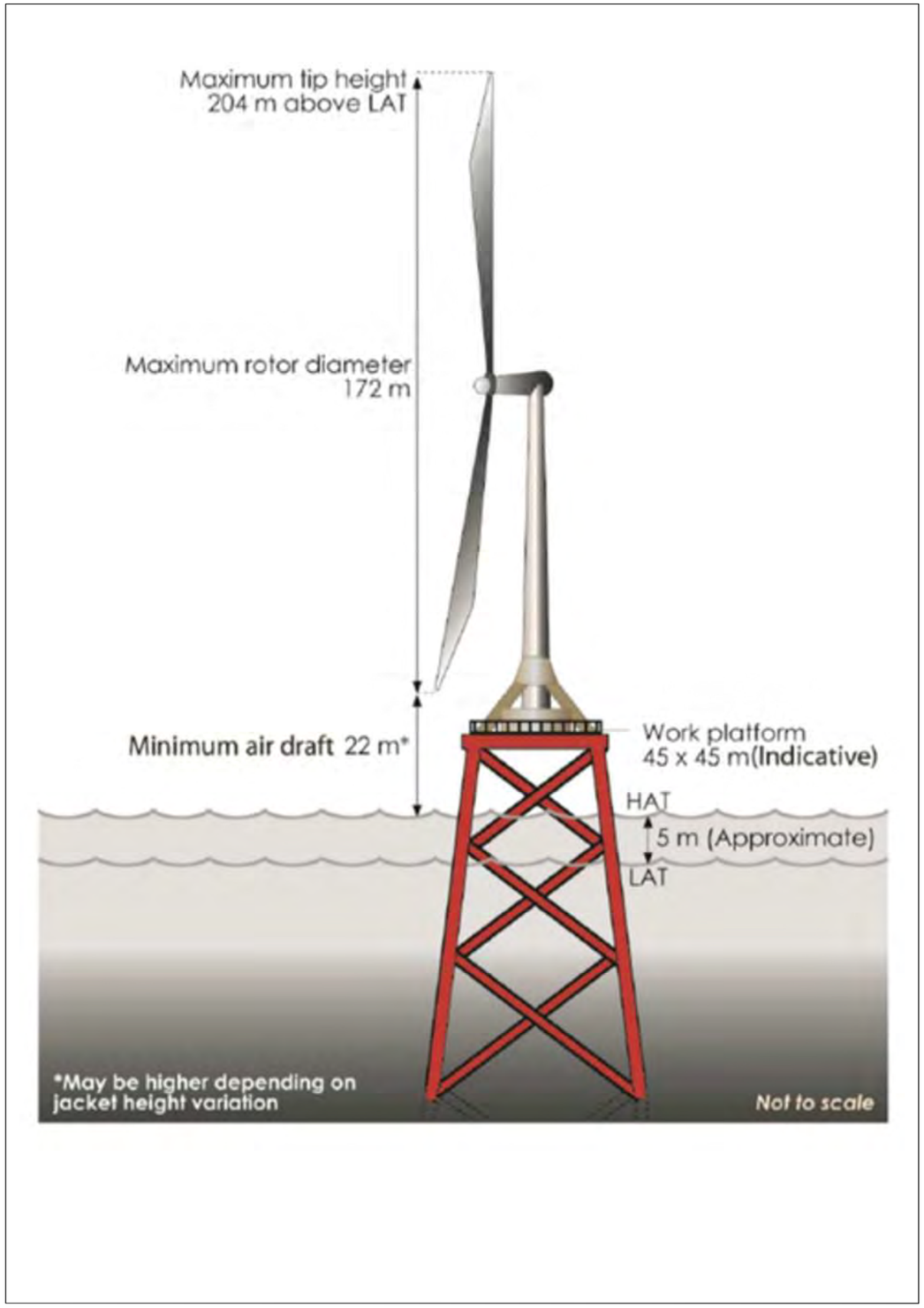
N

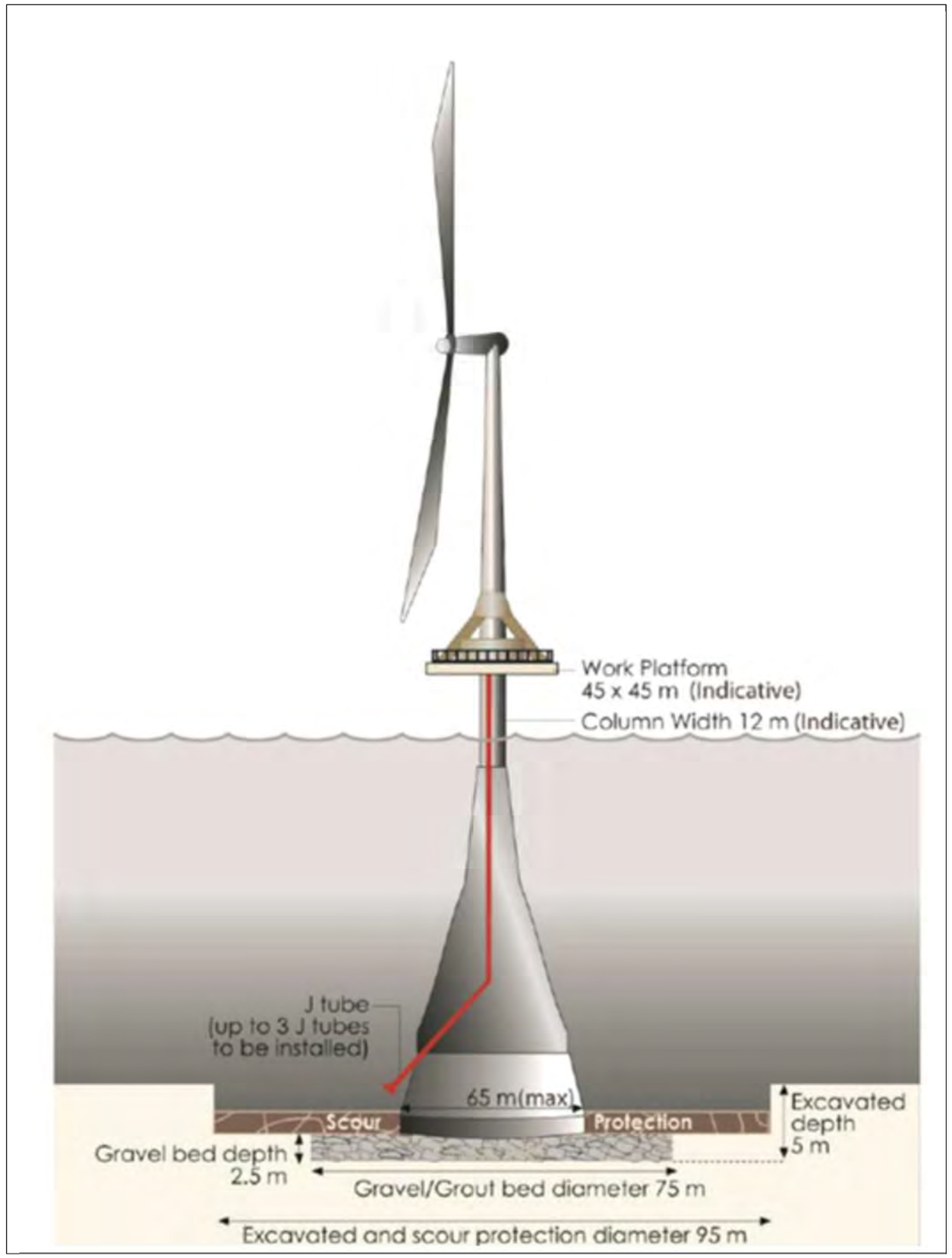
Geodetic Parameters:	WGS84 UTM Zone 30N
Produced: RH Reviewed: AH Approved: CR	
Date: 20/12/2011	Revision: A
REF: 8460001-PPW0201-MOR-MAP-002	

Figure 2

Moray Offshore Renewables Ltd

Figure 3


Maximum tip height
204 m above LAT
Maximum rotor diameter
172 m
Minimum air draft 22 m*
Work platform
45 x 45 m(Indicative)
HAT
5 m (Approximate)
LAT
*May be higher depending on
jacket height variation
Not to scale


Work Platform
45 x 45 m (Indicative)
Column Width 12 m (Indicative)
J tube
(up to 3 J tubes
to be installed)
65 m(max)
Scour
Protection
Excavated
depth
5 m
Gravel bed depth
2.5 m
Gravel/Grout bed diameter 75 m
Excavated and scour protection diameter 95 m

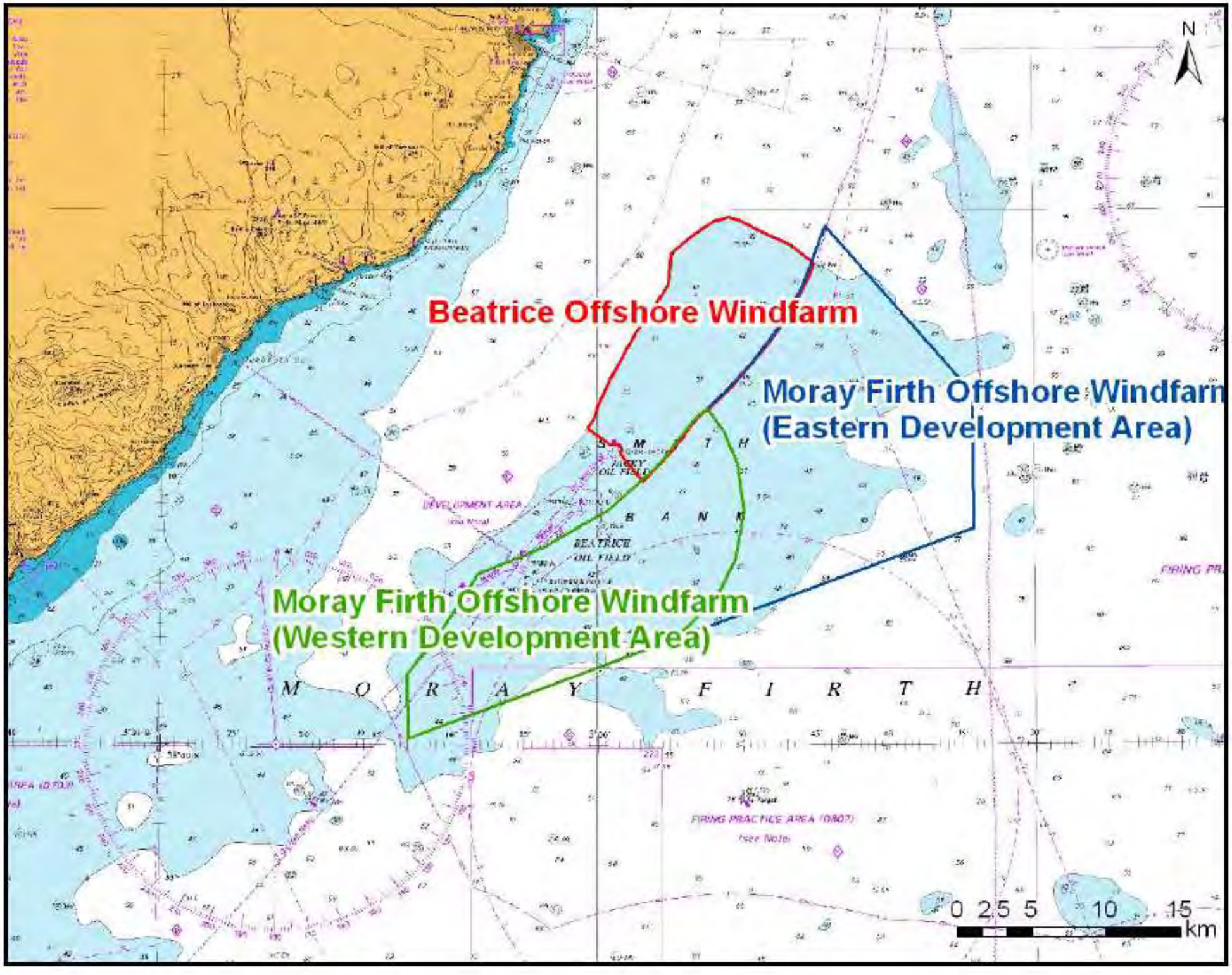

Beatrice Offshore Windfarm
Moray Firth Offshore Windfarm
(Eastern Development Area)
Moray Firth Offshore Windfarm
(Western Development Area)
N
0 2.5 5 10 15
km

Figure 4

The Highland Council
Comhairle na Gàidhealtachd

Alexander Ford
Marine Scotland Licensing Operations Team
Scottish Government
Marine Laboratory
375 Victoria Road
Aberdeen
AB11 9DB

e-mail: david.mudie@highland.gov.uk
Direct dial: (01463) 702255
Our Ref: 12/03359 - 61/s36
Your Ref: 011/OW/MORLE-8
Date: 22 March 2013

Dear Alexander

ELECTRICITY ACT 1989
The Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2000
The Electricity Works (Applications for Consent) Regulations 1990

MARINE (SCOTLAND) ACT 2010
MARINE AND COASTAL ACCESS ACT 2009
The Marine Works (Environmental Impact Assessment) Regulations 2007

APPLICATION FOR:

- **THREE CONSENTS UNDER S36 OF THE ELECTRICITY ACT 1989 AND THREE MARINE LICENCES UNDER PART 4 OF THE MARINE AND COASTAL ACCESS ACT 2009 TO CONSTRUCT AND OPERATE THREE PFFSHORE WIND FARMS IN THE OUTER MORAY FIRTH, AND**
- **ONE MARINE LICENCE UNDER SECTION 20 OF THE MARINE (SCOTLAND) ACT 2010 AND UNDER SECTIONS 65 AND 66 OF THE MARINE AND COASTAL ACCESS ACT 2009 TO CONSTRUCT THE ASSCOICATED OFFSHORE TRANSMISSION WORKS IN THE OUTER MORAY FIRTH**

Thank you for your consultation of 28 August 2012 in respect of the above and for allowing the extension of time to respond.

At its meeting on 19 March 2013, following considerable debate on matters relating to the residual visual impact of the proposal as well as the potential economic benefits to Highland, the Council's North Planning Applications Committee decided that it wished to Raise No Objection to the proposals 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 pursues opportunities for a visitor centre within Caithness and/or visitor interpretation facilities along the East Caithness/ Sutherland coastal route.

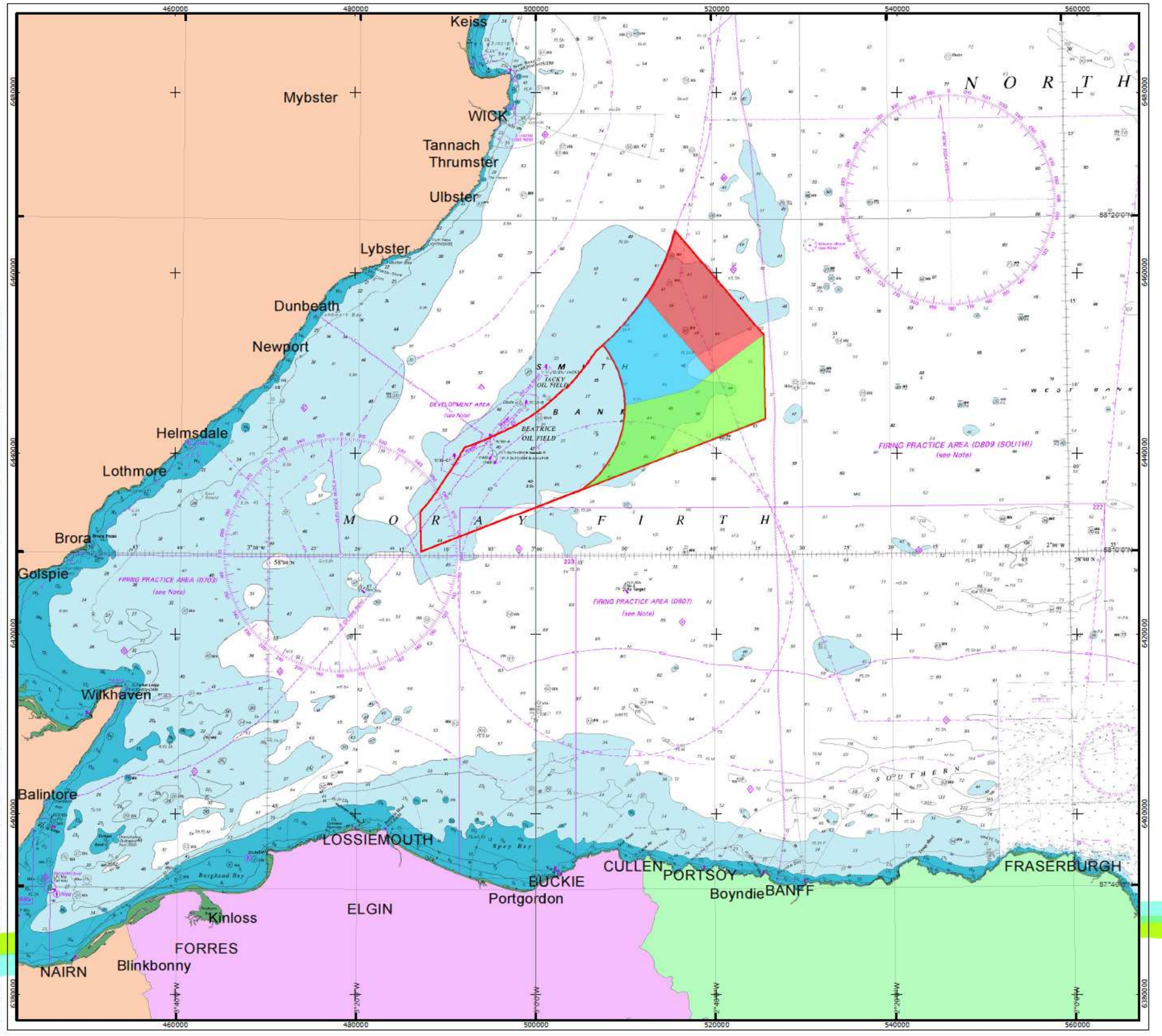
9. The applicant ensures that the liaison group to be established by way of mitigation with the fishing industry shall specifically include representatives of the Highland fishing community.

Full details of the Report to Committee can be obtained from our website at http://www.highland.gov.uk/yourcouncil/committees/npac-comms/2013-03-19-npac-ag.htm. Minutes once available can be found at http://www.highland.gov.uk/yourcouncil/committees/npac-comms/

Should you require further advice or clarification please do not hesitate to contact me.

Yours sincerely

David Mudie
Team Leader – Development Management
Planning and Development Service



renewables

REPSOL

Moray Offshore Renewables Ltd

KEY

- Telford Windfarm
- Stevenson Windfarm
- MacColl Windfarm
- MORL Zone Boundary

Horizontal Scale: 1:400,000 A3 Chart

0 10,000 20,000 Meters

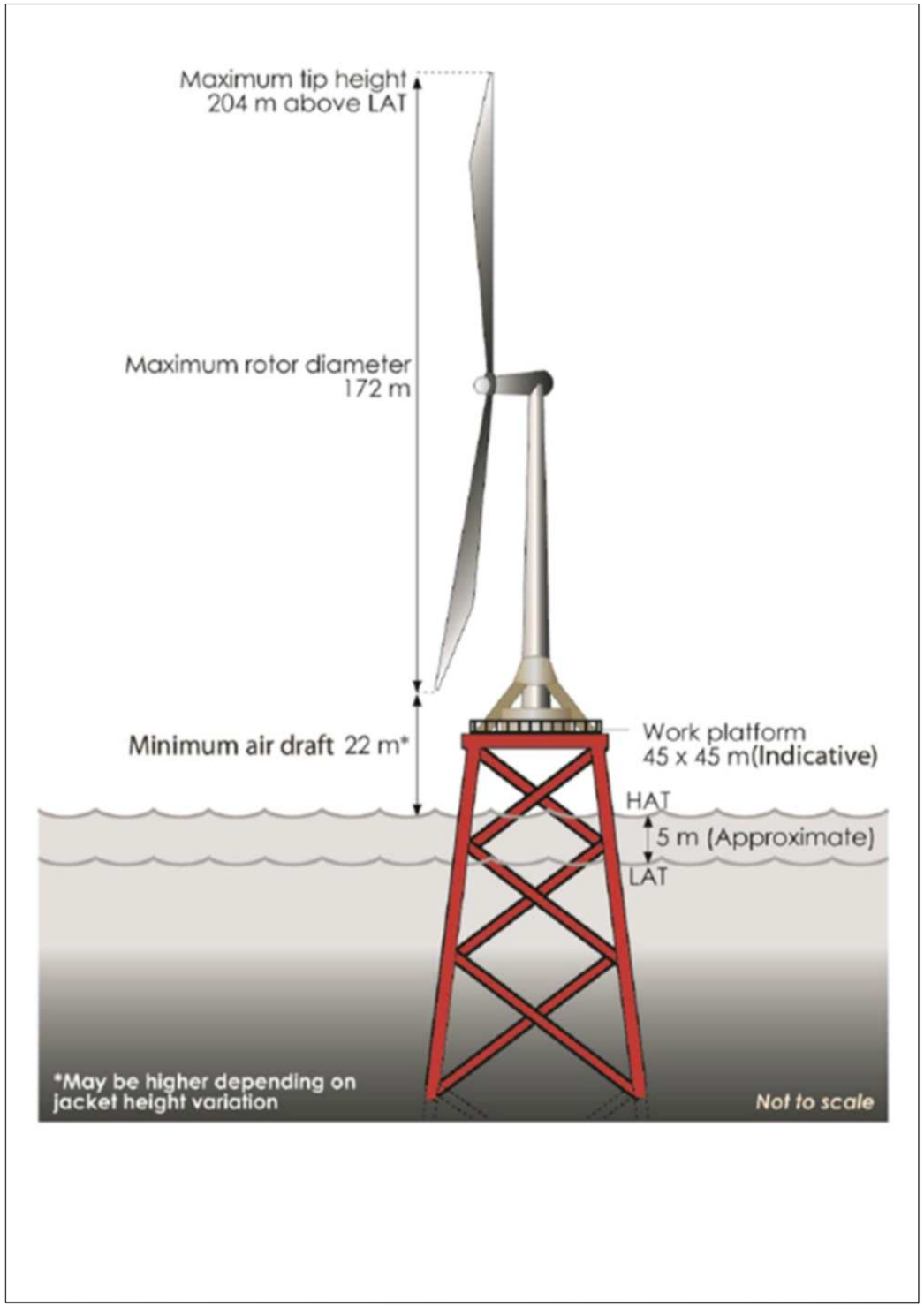
N

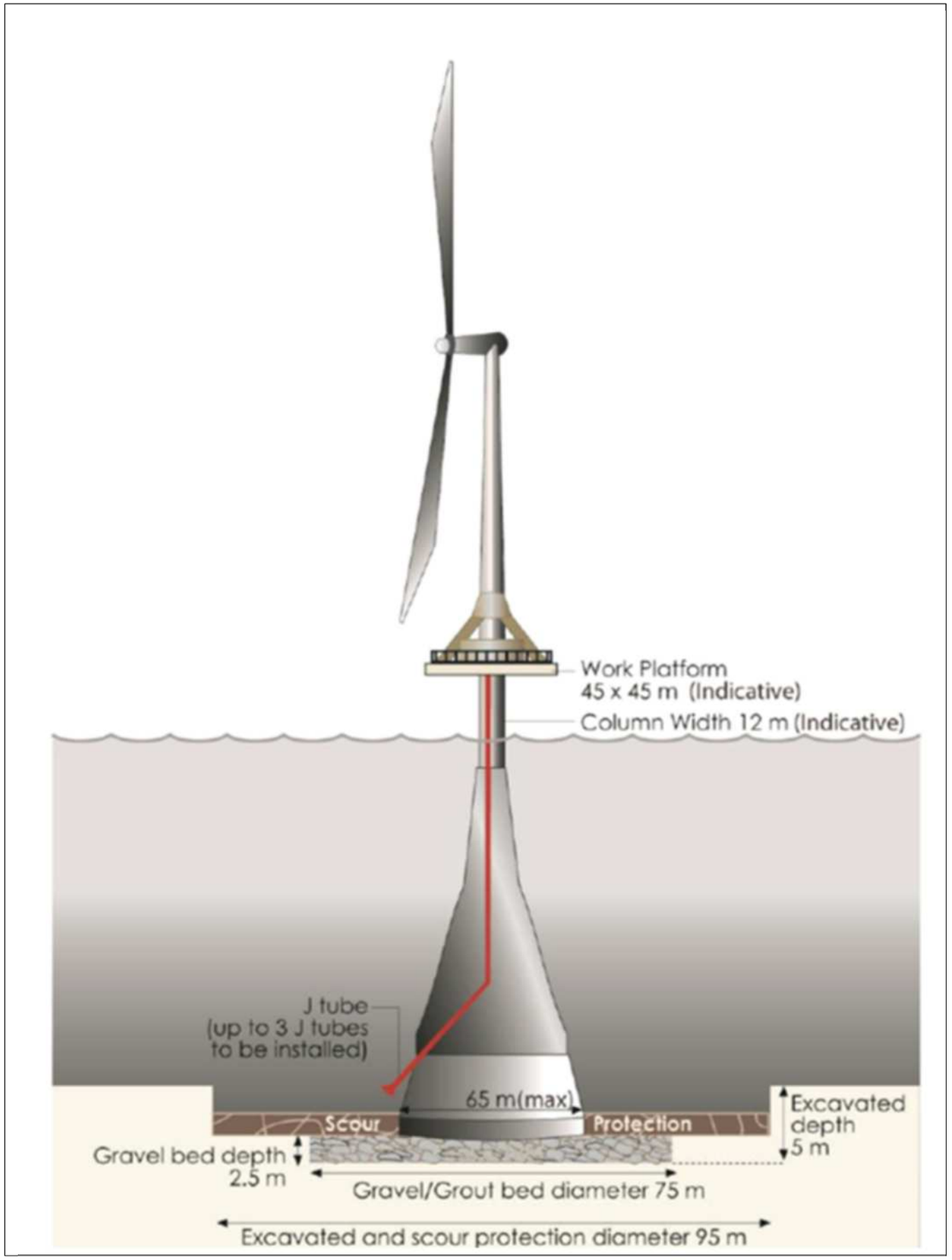
Geodetic Parameters:	WGS84 UTM Zone 30N
Produced: RH Reviewed: AH Approved: CR	
Date: 20/12/2011	Revision: A
REF: 8460001-PPW0201-MOR-MAP-002	

Figure 2

Moray Offshore Renewables Ltd

Figure 3


Maximum tip height
204 m above LAT
Maximum rotor diameter
172 m
Minimum air draft 22 m*
Work platform
45 x 45 m(Indicative)
HAT
5 m (Approximate)
LAT
*May be higher depending on
jacket height variation
Not to scale


Work Platform
45 x 45 m (Indicative)
Column Width 12 m (Indicative)
J tube
(up to 3 J tubes
to be installed)
65 m(max)
Scour
Protection
Excavated
depth
5 m
Gravel bed depth
2.5 m
Gravel/Grout bed diameter 75 m
Excavated and scour protection diameter 95 m

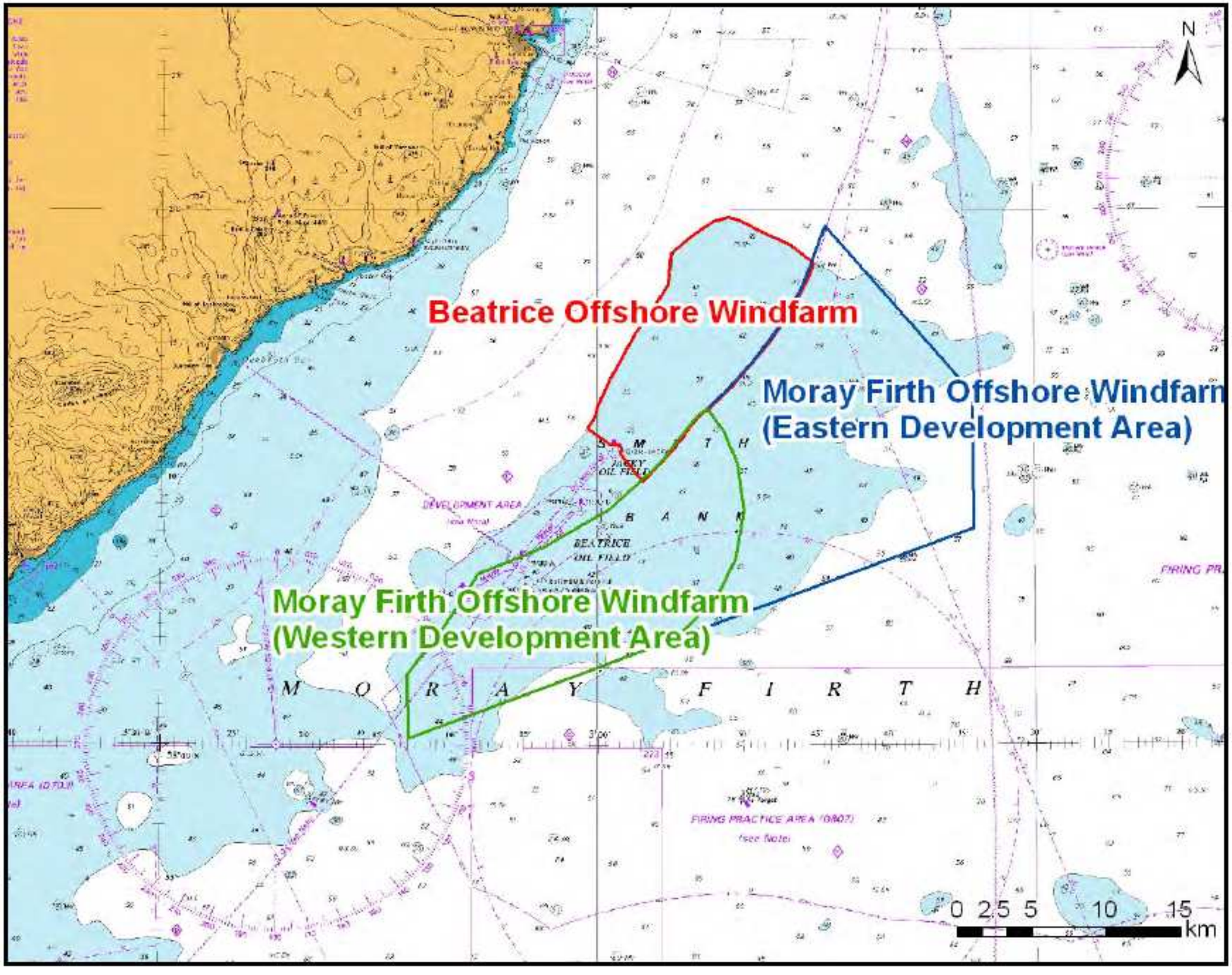
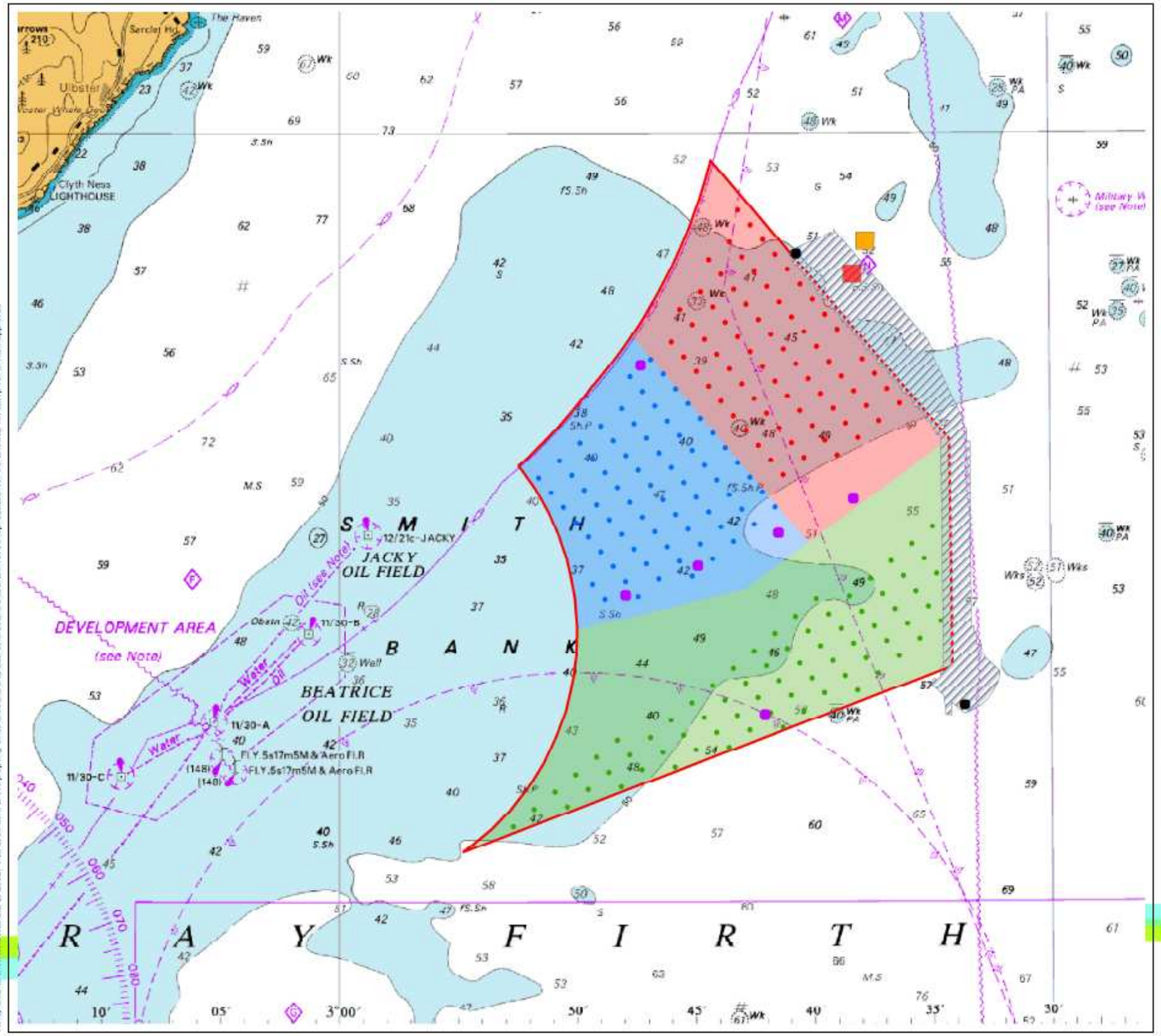

Beatrice Offshore Windfarm
Moray Firth Offshore Windfarm
(Eastern Development Area)
Moray Firth Offshore Windfarm
(Western Development Area)
N
BANK
BEATRICE
OIL FIELD
MORAY FIRTH
FIRING PRACTICE AREA (D807)
(see Note)
0 2.5 5 10 15
km

Figure 4



edp renewables

REPSOL

Moray Offshore Renewables Ltd

KEY

Turbine Layout Scenario 4c:

- Telford 7MW Turbines (204m)
- Stevenson 7MW Turbines (204m)
- MacColl 7MW Turbines (204m)
- Telford Development Area
- Stevenson Development Area
- MacColl Development Area
- Eastern Development Area
- Hub 1 (Preferred)
- Hub 2 (Back-up)
- Fixed Offshore Substation Platform (OSP)
- Potential AC/DC Converter Station Outwith the Development
- AC/DC Converter Offshore Substation Platform (OSP)

Horizontal Scale: 1:150,000 A3 Chart

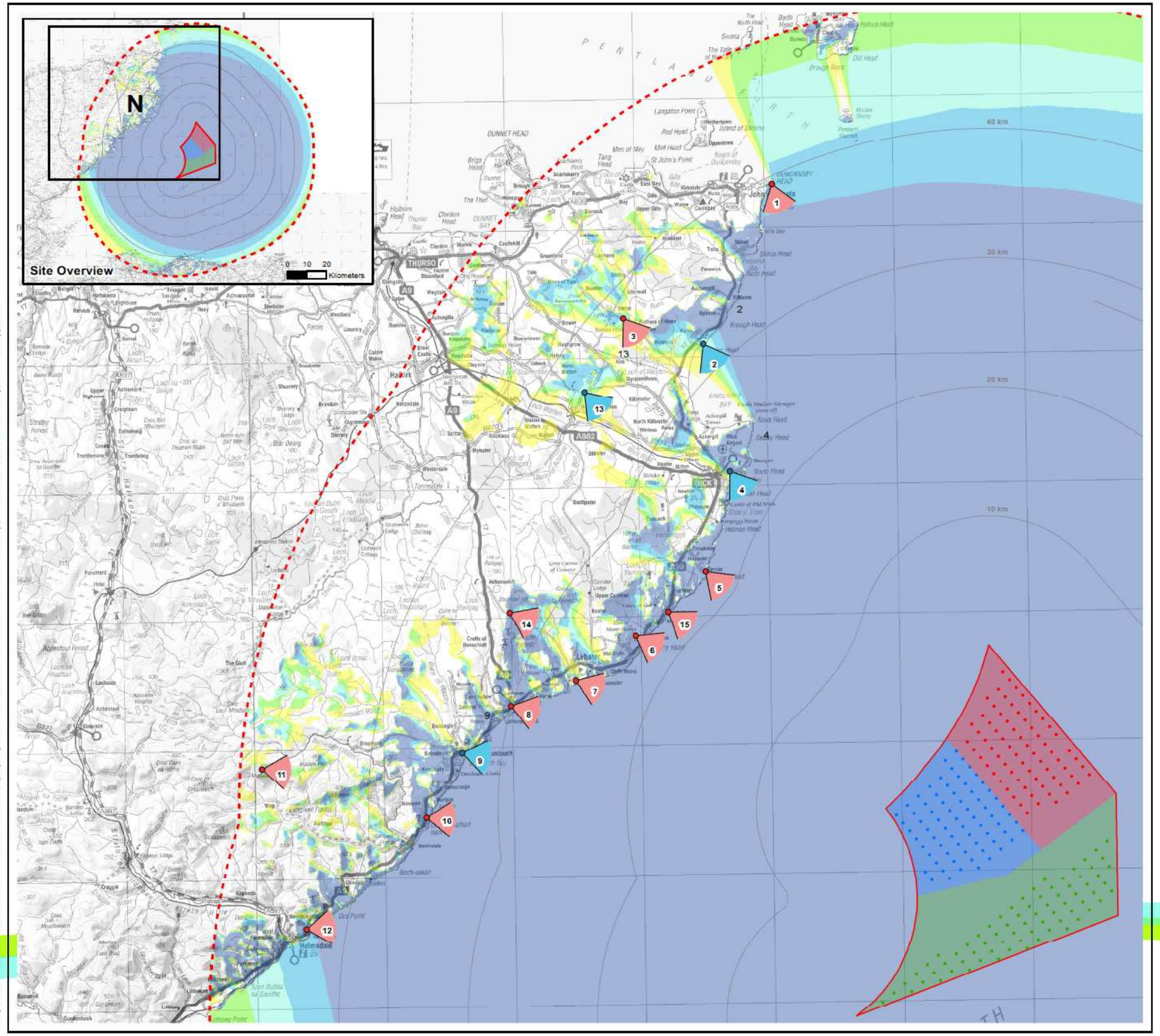
0 2,500 5,000 Meters

N

Geodetic Parameters:	WGS84 UTM Zone 30N
Produced: LA Reviewed: SM Approved: SM	
Date: 09/07/2012	Revision: B
REF: 8460001-PPW0201-OPE-MAP-022	

Figure 5

Moray Offshore Renewables Ltd



edp renewables

REPSOL

Moray Offshore Renewables Ltd

KEY

Turbine Layout Scenario 4c:

- Telford 7MW Turbines (204m)
- Stevenson 7MW Turbines (204m)
- MacColl 7MW Turbines (204m)
- Telford Development Area
- Stevenson Development Area
- MacColl Development Area
- Eastern Development Area
- 10km Distance Radii
- 50km Study Area Boundary

Blade Tip ZTV (204m)
No. of Visible Turbines

0	101 - 150
1 - 50	151 - 200
51 - 100	201 - 216

- Viewpoint Location
- Key Viewpoint Location

1 Duncansby Head
2 Keiss Pier
3 Sortat
4 Wick Bay
5 Sarclet (Sarclet Haven Info Board)
6 Hill O' Many Stanes
7 Lybster (end of Main Street)
8 Latheron (A9)
9 Dunbeath (nr Heritage Centre)
10 Berriedale (A9)
11 Morven
12 Navidale
13 Catchory
14 Minor Rd
15 Whaligoe Steps
16 Lossiemouth Harbour
17 Buckie
18 Portnockie - Bow Fiddle Rock Info Point
19 Cullen
20 Bin Hill
21 Findlater Castle (Check height)
22 Portsoy
23 Ferry Route (Kirkwall to Aberdeen) 1
24 Ferry Route (Kirkwall to Aberdeen) 2

Horizontal Scale: 1:280,000 A3 Chart

0 5,000 10,000 Meters

N

Geodetic Parameters: WGS84 UTM Zone 30N

Produced: LA
Reviewed: SM
Approved: SM

Date: 09/07/2012 | Revision: B

REF: 8460001-PPW0201-OPE-MAP-026

Figure 6

Moray Offshore Renewables Ltd