



*Application for*

*a*

*Foreshore Lease*

*for the*

*Construction*

*and*

*Operation of an*

*Offshore Electricity Generating Station*

cat2fce

Complete and return, with fourteen (14) copies of EIS and Admiralty Charts and one copy of the Articles of Association, to Foreshore Section, Department of the Marine and Natural Resources, Leeson Lane, Dublin 2

**APPLICATION FOR FORESHORE LEASE TO CONSTRUCT AN OFFSHORE  
ELECTRICITY GENERATING STATION**

**(Please read the guidance notes before completing this application form)**

**1. Applicant's Name:**  
**Bray Offshore Wind Ltd**

**Address: Kerry Technology Park, Listowel Road, Tralee, Co. Kerry**

**☎ 066 7129144 Fax. 066 7190329 E-mail [aidan.forde@saorgus.com](mailto:aidan.forde@saorgus.com)**

**1. (a) Name and address of applicant's legal advisor**

**Mark Varian, O'Donnell Sweeney, One Earlsfort Centre, Earlsfort Terrace, Dublin 2**

**☎ 01 6644200 Fax 01 6644300 E-mail [mvarian@odonnellsweeney.ie](mailto:mvarian@odonnellsweeney.ie)**

**2. Nature of proposed generating station (i.e. wind powered, wave powered, etc.)**  
**Wind powered**

**3. Details of Authorisation to construct and Licence to generate and supply issued by the Commission for Electricity Regulation (include photocopies)**  
**Applications for an Authorisation to Construct and a Generation Licence have been made to CER and are being processed.**

**See attached letter of confirmation from CER.**

**4. Longitude and Latitude of proposed generating station site boundaries**  
**See attached response.**

**4.(a) Where the area can be identified on the Ordnance Survey map, the Ordnance survey co-ordinates should also be shown** **Area cannot be identified on OS map**

**5. Longitude and Latitude of the central Point of the proposed wind farm**  
**53 deg 11 min 30 sec N; 5 deg 54 min 30 sec W**

**5(a) Where the area can be identified on the Ordnance Survey map, the Ordnance survey co-ordinates should also be shown** **Area cannot be identified on OS map**

6. Area to be covered by the proposed generating station **2,000 Ha**
7. Dimension of the generating station area at its longest and widest points  
Length: **8.0 km** Width: **2.5 km**
8. Number & location of turbines within the area (indicate on charts)  
**70 turbines. See attached site layout diagram.**
9. Maximum height of turbines above chart datum (including, in the case of windfarms, blades when vertical) **160 m**
10. Rotor diameter of turbines (in the case of windfarms) **up to 120 m**
11. Physical dimensions of each complete structure including anchorage or foundation \*  
**Turbine tower: See attached diagrams in response to Q12 & Q13.**  
**Foundation: Diameter up to 35 m. See attached diagrams in response to Q12 & Q13.**
12. Nature of construction below sea- level\*  
**See attached diagram and response.**
13. Nature of construction above sea-level\*  
**See attached diagram and response.**
14. Manner in which structures will be anchored to the sea bed (i.e. cable, set in concrete foundations, etc.)\*  
**See attached diagram and response.**
- \* Provide scaled drawings with the responses to these questions.
15. Nearest distance from other generating stations or other constructions on the sea-bed (including constructions anchored permanently or semi-permanently to the sea-bed) \*\*  
**See attached diagram and response.**
16. Distance from shore at nearest point **10.2 km (see attached diagram) \*\***
17. Distance from nearest habitation **10.2 km (see attached diagram) \*\***
18. Distance from nearest Aquaculture operation if less than 3 km **None known to occur.**
19. Distance from nearest Special Protection Area (SPA) or Special Area of Conservation (SAC) if less than 5 Km. **N/A. See attached response. \*\***

**20. Distance from shipping lanes at nearest point** See attached diagram and response. \*\*

**\*\* Illustrate on the appropriate marine charts accompanying the application**

**21. Indicate any other economic or leisure activities known to take place within or adjacent to the area proposed for the generating station**

See attached response.

#### **CONDITIONS WHEN OPERATING**

**22. Maximum noise levels expected at the site** See attached response.

**23. Normal noise levels expected at the site** See attached response.

**24. Normal noise levels expected at site of nearest habitation** See attached response.

**25. Maximum Noise levels expected at site of nearest habitation** See attached response.

**26. Maximum noise levels expected at nearest SPA or SAC (if closer than 5 Km.)**

**N/A - There are no SPAs or SACs located closer than 5 km.**

**27. Indicate conditions which might be expected (a) to increase noise levels above normal and (b) to maximum levels (a) Fault in major turbine component such as gearbox / blade.**

See response to (b). This combined with onshore winds would maximise noise levels.

**28. Describe visual impact of the proposal at site of nearest habitation or human activity on-shore (indicate type of site (i.e. houses, beach, boat club, etc.)**

See attached response.

**29. Designed maximum annual output of the proposed generating station**  
**Phase 1: 25 MW (74 GWh/yr). Phases 2-5: up to 372 MW (1,101 GWh/yr)**

**30.. Anticipated maximum annual output of the proposed generating station**  
**Phase 1: 25 MW (74 GWh/yr). Phases 2-5: 310 MW (918 GWh/yr)**

**31(a). Is an exclusion zone for passage of shipping (including fishing and leisure boats) sought (YES/NO) (If “yes” please supply details and give reasons)**

See attached response.

**(b) Is an exclusion zone (or ban) sought on the use of any type of fishing gear or leisure activity within the area occupied by the turbines and/or associated cables?**

See attached response.

**See attached map indicating the area in question.**

*(exclusion zone should be indicated on the appropriate marine charts which should accompany the application)*

**32. Capital Cost of Proposed Venture Phase 1: €50m; Phases 2-5: €370m - €745m.**

**33. Source of capital Debt finance (various banks interested) / equity (Corporate Finance Ireland)**

**34. Has consultation taken place with Dúchas - the National Heritage Service?  
(Yes/No) Yes. See attached correspondence.**

*(If yes please supply copies of relevant correspondence )*

**35. Have nearby harbour authorities been consulted (Yes/No) Yes. See attached correspondence.  
(If yes please supply copies of relevant correspondence ) Also consulted by Capt Tom Proctor on our behalf.**

**36. Has planning permission been received for shore based works ?  
(if yes copy should be attached) No. See attached comments.**

**If planning permission has not been received a copy of the planning application(s)  
should accompany the application)**

**37. Have necessary on-shore eaves been obtained? No. See attached comments.  
Signed for and on behalf of the applicant**

**Name of Signatory (block letters) Aidan Forde Position Director**

**Date 21 Dec 2005 Name address, telephone etc. details of contact (if  
different from that of the applicant) As per applicant details**

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**Attachment to Accompany an  
Application for a Foreshore Lease  
for the  
Construction and Operation  
of an  
Offshore Electricity Generating Station  
on the Bray Bank**

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**Bray Offshore Wind Ltd**

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**20<sup>th</sup> April 2009**

**Response to Q.3**

See below letter of confirmation of applications for Authorisation to Construct and Generation Licence from CER.



18<sup>th</sup> January, 2005

Mr. Damien Courtney  
Saorgus Energy Ltd  
Enterprise House  
Kerry Technologies Park  
Listowel Road  
Tralee  
Co. Kerry

**Re: Kish and Bray Offshore Wind Farm – ATC and GL Applications**

Dear Mr. Courtney,

I refer to your email dated 13/01/05 re the above.

I wish to confirm that the Commission for Energy Regulation received two applications from Saorgus Energy relating to the above.

The applications have been transferred to Kish Offshore Wind Ltd (Auth 2003/04-21, Gen 2003/04-17) and Bray Offshore Wind Ltd (Auth 2003/04-22, Gen 2003/04-18)

If you have any queries please do not hesitate to contact me on 01 4000800 or [mwhelan@cer.ie](mailto:mwhelan@cer.ie).

Yours sincerely

*Michelle Whelan*  
Michelle Whelan  
Commission for Energy Regulation

Plaza House,  
Belgard Road, Tallaght,  
Dublin 24, Ireland

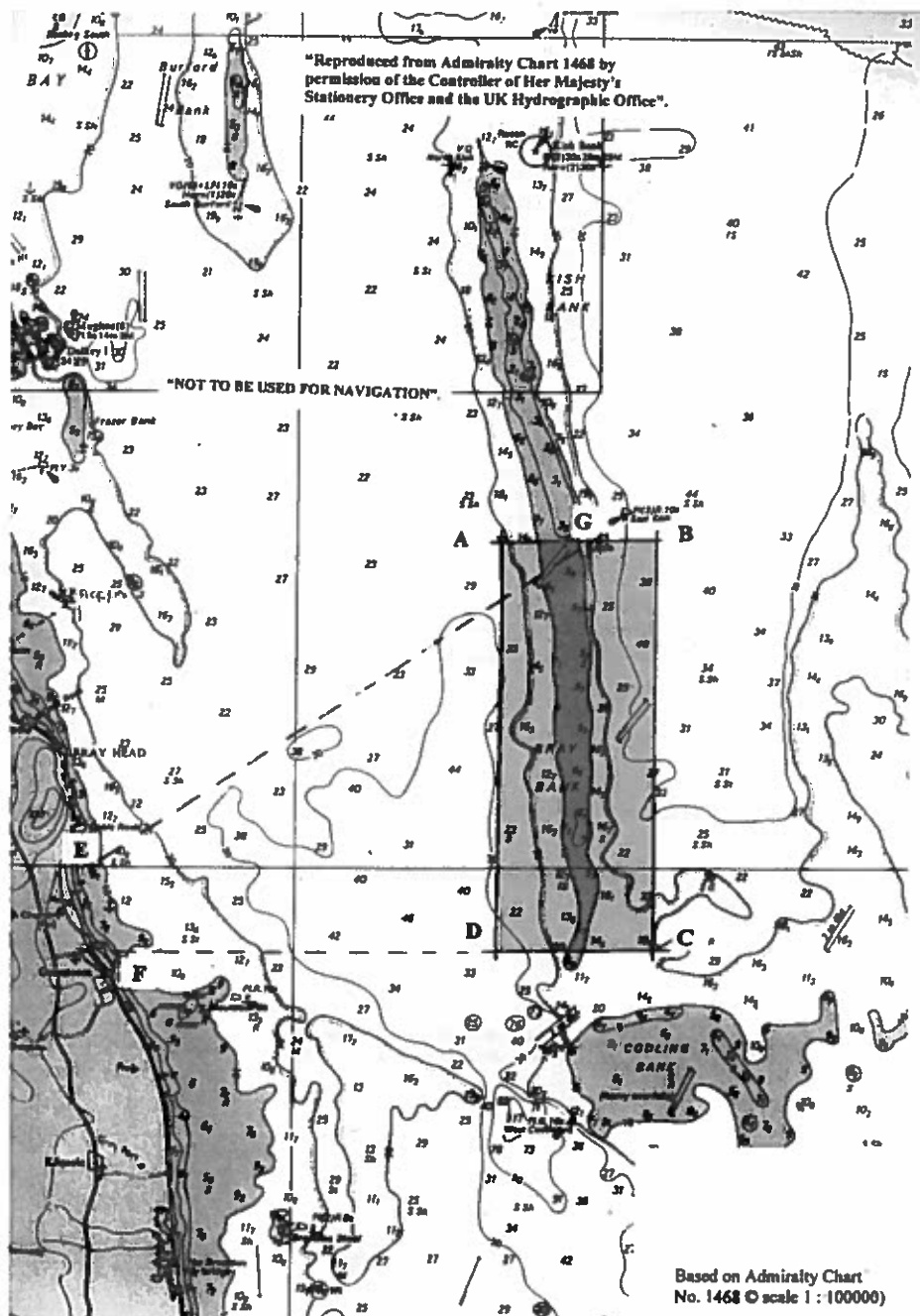
Tel: +353 1 4000 800  
Fax: +353 1 4000 850  
[www.cer.ie](http://www.cer.ie)

**Response to Q.4**

The longitude and latitude of the proposed generating station site boundaries for the Bray Bank are as follows:

<b>A</b>	53° - 14'N	5° - 56'W
<b>B</b>	53° - 14'N	5° - 53'W
<b>C</b>	53° - 09'N	5° - 53'W
<b>D</b>	53° - 09'N	5° - 56'W

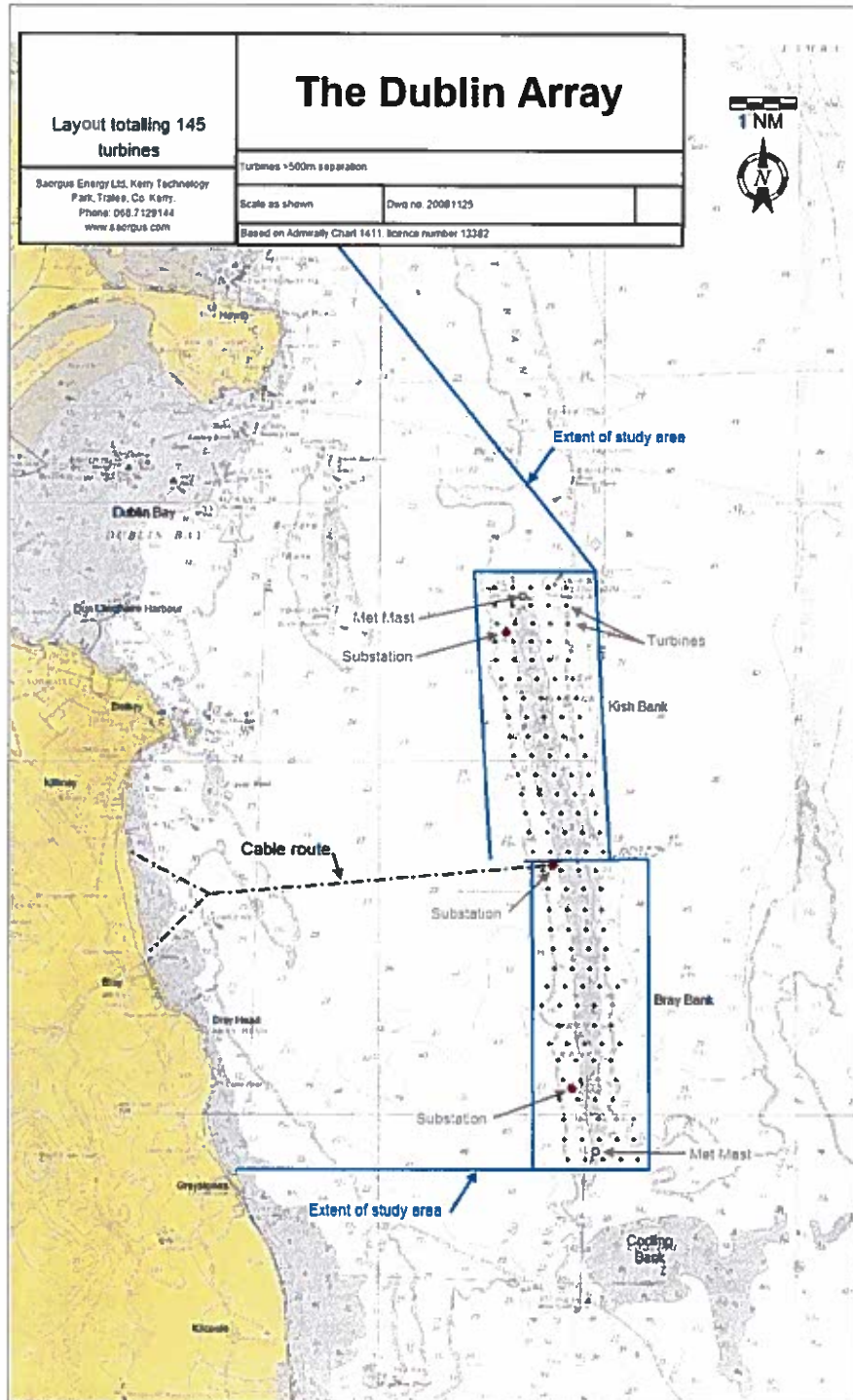
This area is illustrated below:





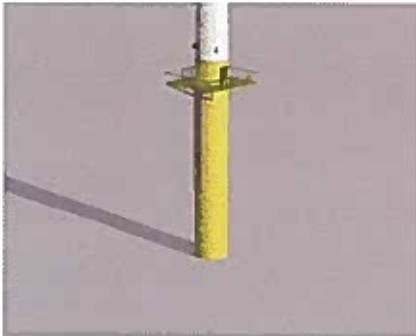
**Response to Q.8**

The diagram below shows the location of turbines to be sited on both the Kish and Bray Banks. The southernmost 16 rows constitute the proposed generating station to be located on the Bray Bank.

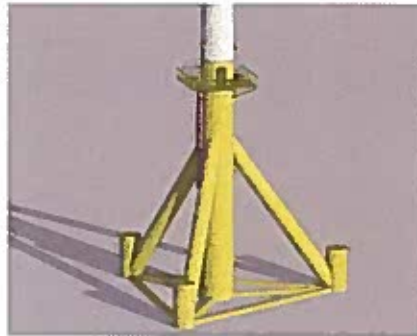


**Response to Q.12**

The nature of construction below sea-level would consist of one of the following foundation types:



**(A) Monopile**



**(B) Multi-pile (tripod)**



**(C) Gravity Caisson**

*Monopile*

Dimensions: The diameter of the monopile varies from 3.5 m to 5.5 m, and it is driven a distance of between 20 m and 40 m into the seabed.

*Multipile (Tripod)*

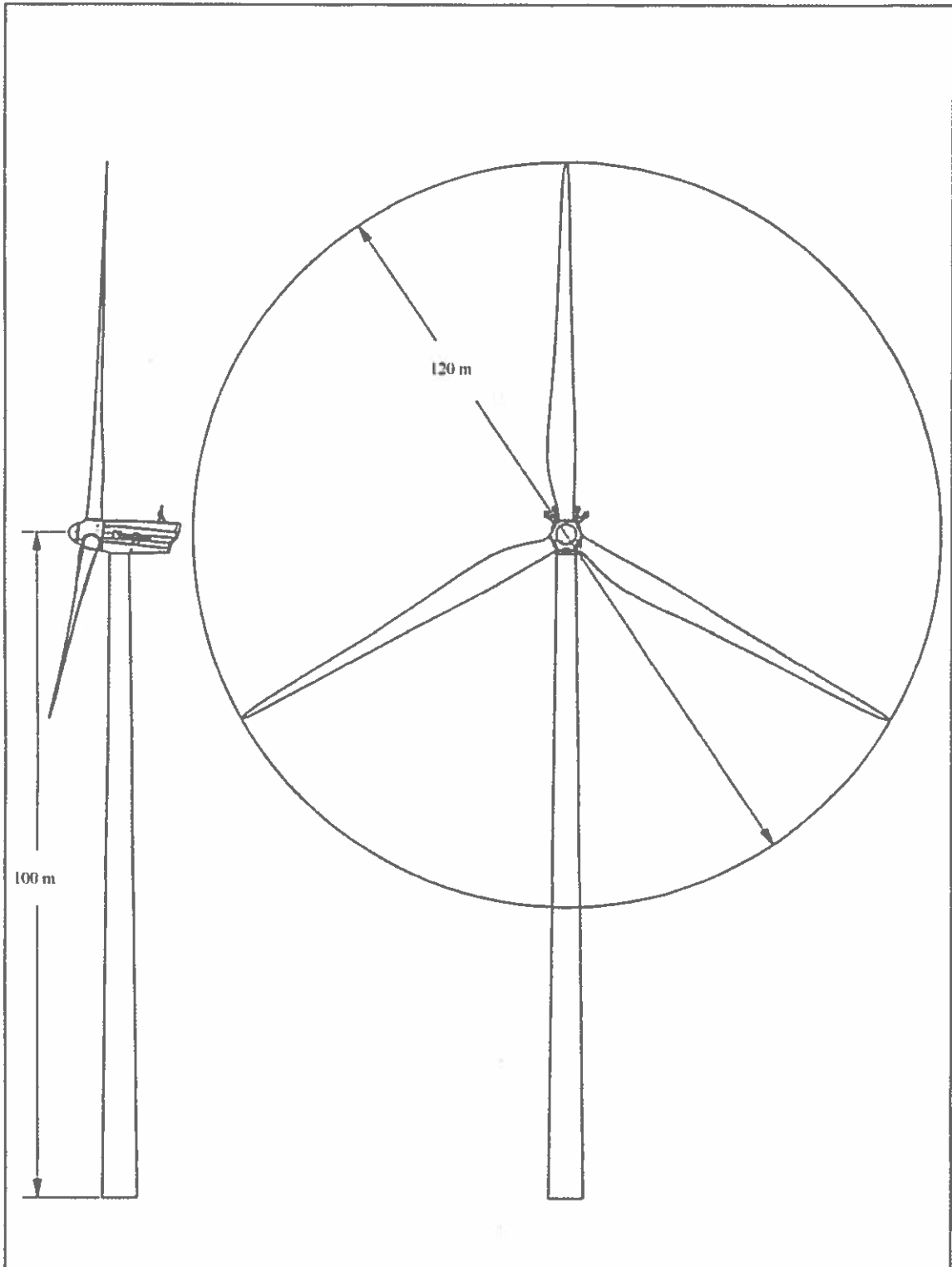
Dimensions: The piles have a diameter of between 1.5 m and 3.5 m. The total area occupied by the structure is up to 35 m in diameter.

*Gravity Caisson*

Dimensions: Typically 15 m diameter, though can be as large as 25 m diameter depending on depth of water.

**Response to Q.13**

A diagram of the turbine tower as it would appear above sea-level is indicated below. The maximum hub height is 100 m and the maximum rotor diameter is 120 m.

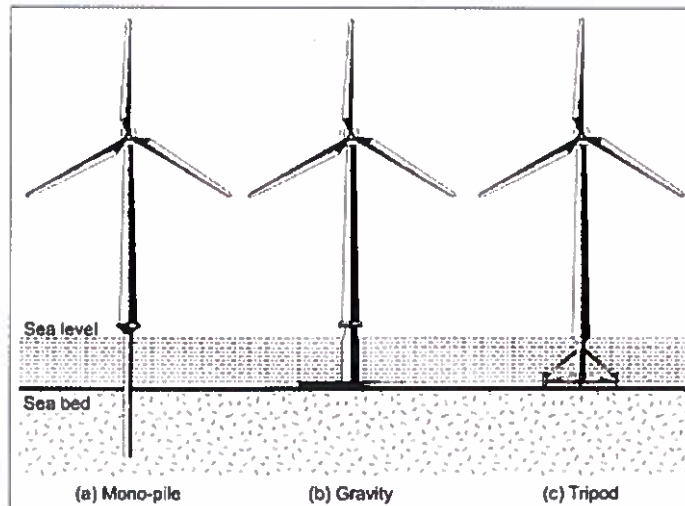


**Response to Q.14**

Turbine towers would be anchored to the seabed using one of the following methods (see diagram):

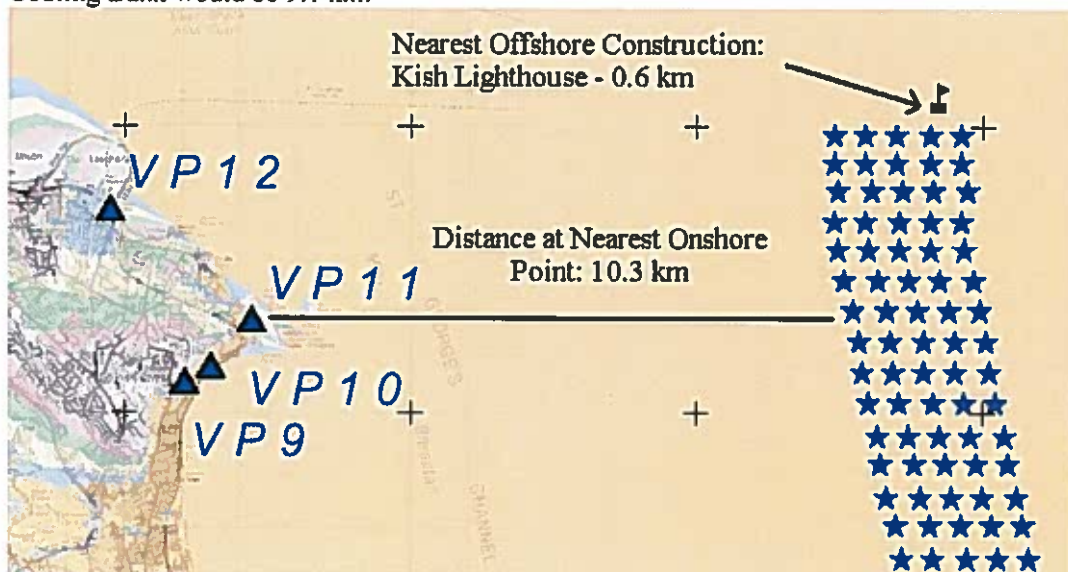
- Monopile foundation – turbine is driven / vibrated into the seabed
- Gravity caisson foundation – turbine is set in a concrete / steel caisson
- Multipile (tripod) foundation – a variation of the piled foundation where more than one pile is used

The type of foundation to be used at a particular location would depend on the ground conditions at that location.



**Response to Q.15**

The proposed Bray Bank development would be located to the south of the Kish Lighthouse. The shortest distance between the Kish Lighthouse and turbines on the north of the Bray Bank would be 8.4 km (see diagram below). The proposed Codling Bank wind farm development would be located to the southeast of the Bray Bank development. The shortest distance between turbines on the south of the Bray Bank and those on the Codling Bank would be 3.1 km. The shortest distance between turbines from Phase 1 of the Bray Bank and those on the Codling Bank would be 9.1 km.



**Response to Q.16 - 17**

The distance from the proposed development to the nearest point onshore (and the nearest habitation) is 10.2 km (see diagram above).

**Response to Q.19**

There are no SPAs or SACs located within 5 km of the proposed development. Bray Head (SAC, pNHA) is located 10.4 km from the closest turbine of the development.

**Response to Q.20**

The distance from shipping lanes to the proposed development at the closest point is as follows:

*North Bray:* The closest shipping lane to the north of the Bray bank passes 1-2 cables to the north of the Kish Lighthouse. This is located approximately 9 km to the north of the proposed development on the Bray Bank. Approximately 15% of Dublin traffic (6 passages per day) uses this shipping lane. See diagram below.

*South Bray:* Traffic destined for Dublin (approx. 10 passages per day) passes within 1 nautical mile of the southern extremity of the Bray Bank. See diagram below.

*East Kish:* Traffic destined for Dublin (approx. 3 passages per day) has a closest point of approach of approximately 4.5 nautical miles when passing the southern extremity of the Bray Bank to an average of 1.5 nautical miles when passing the northern extremity of the bank (marked by the Red Can Buoy). See diagram below.

*West Kish:* Traffic operating to the west of the Bray Bank (approx. 3 passages per day) has a closest point of approach of approximately 1 nautical mile to the west of the Bray Bank. See diagram below.

The shipping lanes in the vicinity of the Bray Bank are illustrated in the diagrams below. These diagrams were produced as part of the Sector Analysis for the Shipping Collision Risk Assessment study that was performed as part of the Environmental Impact Assessment.

**Response to Q.21**

The following economic and leisure activities are known to take place on and around the Kish and Bray Banks:

*Commercial Fishing*

Due to the dangerous nature of the Kish and Bray banks, the banks themselves tend not to be fished. There is a thriving inshore industry in the fishing of whelks that extends to a lesser degree to the banks.

*Mussel Seedbeds*

While mussel seedbeds have been located inshore from the Kish and Bray banks and on a number of sites to the south of the banks, the banks themselves have not been used to date for the location of mussel seedbeds for the mussel culture industry.

*Sea Angling*

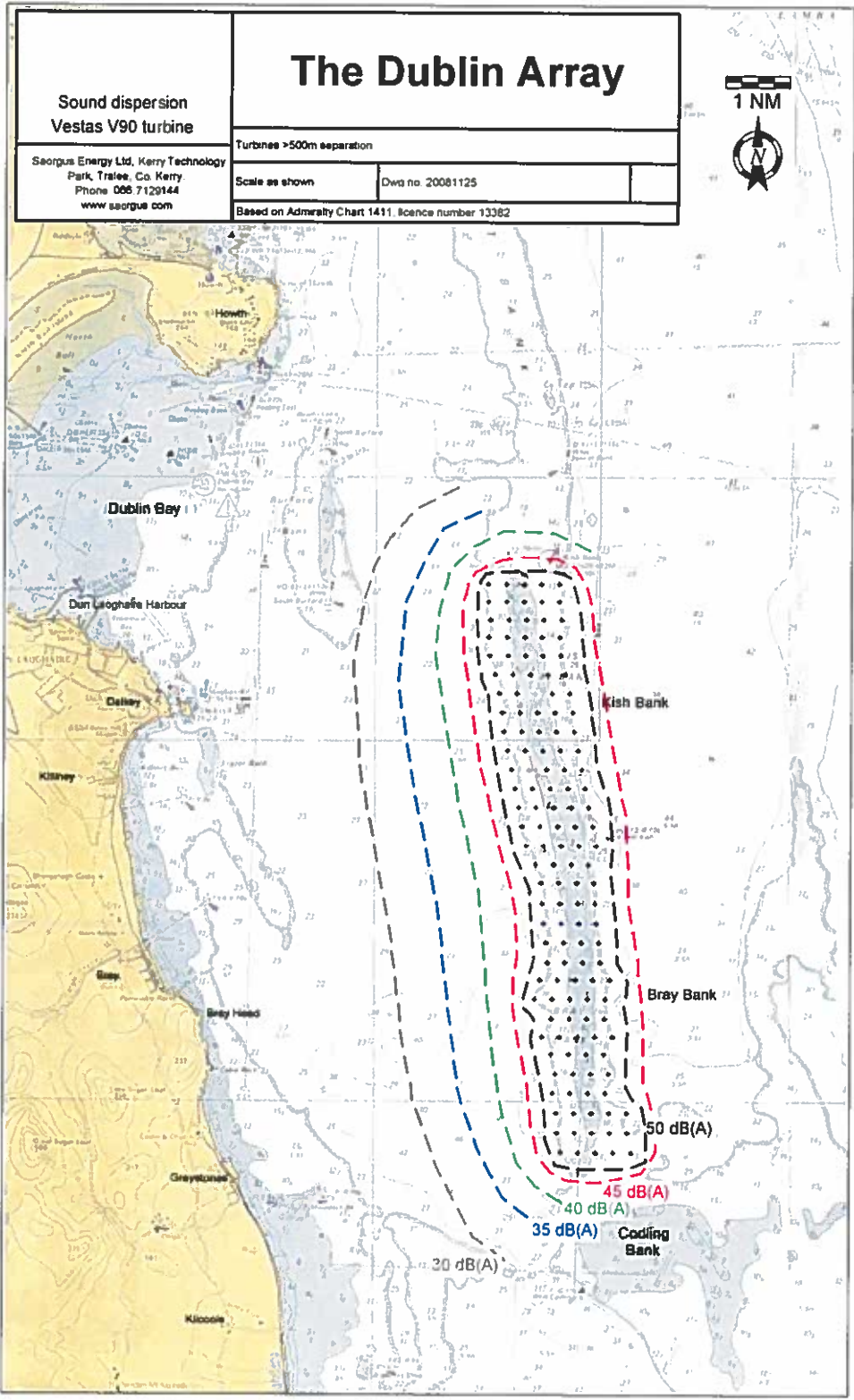
Some sea angling is carried out in the area of the banks though activities tend to be located more inshore than on the banks themselves due to the distance of the banks from shore and the dangerous nature of the banks.

*Sailing*

While the majority of sailing activity in the vicinity of the development is confined to areas further inshore, there is some sailing activity around the banks.

**Response to Q.22 / 23 / 24 / 25**

The noise level that would arise from the proposed development was estimated by producing a noise intensity profile map (see below). The noise level of each turbine at source was assumed to be 108.4 dB(A) with onshore wind speed of 8 m/s for the wind turbine at 100 m hub height. The attached diagrams indicate that the resulting noise level experienced at the nearest residence onshore would be inaudible, given that the order of the sound on the decibel scale would lie in the range 23 – 25dB(A). The background noise (sea movement and wind) that would exist when the turbines are moving so as to produce such a sound level would be well in excess of 25dB(A). Therefore, the wind farm would be inaudible.



**Noise profile map of proposed wind farm, indicating major coastal towns in Co. Dublin and North Co. Wicklow.**



**Response to Q.28**

The nearest site of human activity to the development which was assessed in the Visual Impact Study is Greystones Harbour, Co. Wicklow. The nearest turbine to the development would be located at a distance of 10.2 km from this site.

All turbines in the proposed development would be visible against the horizon from this viewpoint with no local screening being provided. Given that the wind farm occupies a significant portion of the seascape and that the turbines are located at a close distance of 10.2 km from this viewpoint, the visual impact from this point would be significant. The closest turbines, which are located to the right (southern side) of the development, are regularly spaced. As one moves to the left, a number of avenues of turbines appear and towards the far left (northern side) of the development the turbines gradually taper, easing the transition to open sea.

The visual impact from this viewpoint was assessed as Adverse Moderate.

**Response to Q.31(a)**

No existing shipping lanes traverse the banks. No exclusion zone is sought for commercial traffic / trawlers. Leisure boats and fishing vessels would be permitted access to the site, with the exception of those vessels (such as very large sailing yachts) whose mast height would exceed the lowest point of the arc swept by the turbine blades (40 m asl). It is understood that such vessels do not use the site in any case.

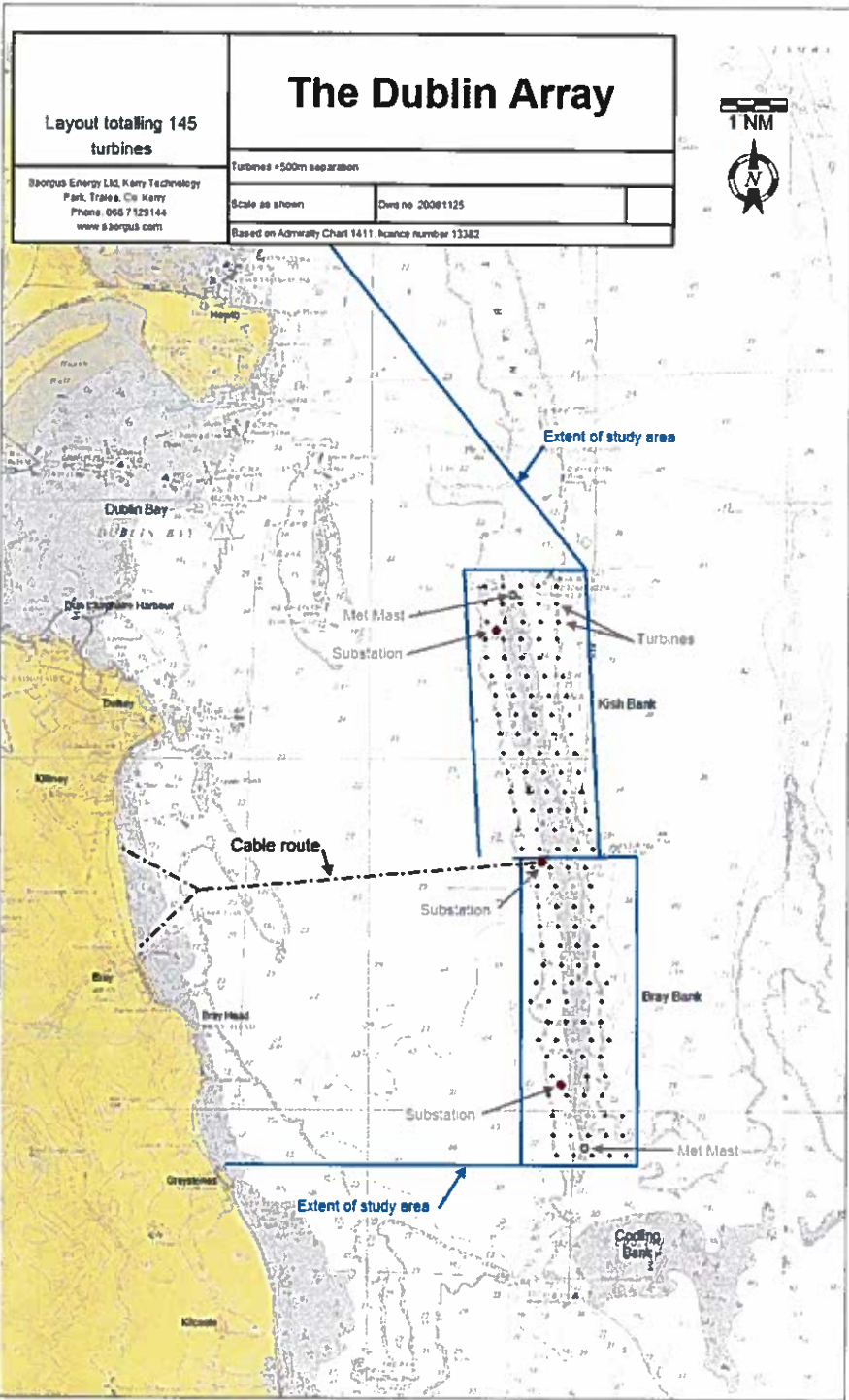
**Response to Q.31(b)**

The development would require that trawling on the Bray Bank be discouraged. A ban on trawling is not sought, but adequate marking on Admiralty Charts will be required.

The development would require that access to the Bray Bank be forbidden in the area within which the construction is in progress. It should be noted that the Bray Bank is already too dangerous for this activity. These areas would be demarcated by the construction contractor.

Sailing boats would be permitted to use the site, with the exception of very large sailing yachts whose mast height would exceed the lowest point of the arc swept by the turbine blades (40 m asl).





**Response to Q.34**

Letters of consultation were sent to the following people:

Ms Alison Harvey,  
Planning Officer,  
The Heritage Council,  
Rothe House,  
Co. Kilkenny

Mr Niall Callan  
Secretary General  
Department of the Environment, Heritage and Local Government  
Custom House Quay  
Dublin 1

Mr Chris O'Grady  
The Director of Planning  
National Parks and Wildlife Service  
Department of the Environment, Heritage and Local Government  
7 Ely Place  
Dublin 2

Copies of the relevant correspondence are included in Volume 3 – Appendix A of the EIS

**Response to Q.35**

Letters of consultation were sent to the following people:

Mr David Dingham,  
Dublin Port Company,  
Port Centre,  
Alexandra Road,  
Dublin 1

Mr Capt John Barlow  
Wicklow Port Company  
North Quay  
Wicklow

The same form of consultation letter as sent to Duchas was issued to all parties. No responses indicating any objections were received.

The following bodies were also contacted by Capt Tom Proctor, Vectra Group, as part of the Shipping Collision Risk Assessment study:

- The Harbour Master, Arklow Harbour
- The Harbour Master, Wicklow Harbour
- The Harbour Master & Commercial Department, Port of Dublin
- The Harbour Master, Drogheda
- The Harbour Master, Dundalk
- The Harbour Master, Greenore
- The Harbour Master, Warrenpoint
- The Commercial Department, Port of Belfast
- The Harbour Master, Port of Larne

**Response to Q.36**

No, planning permission has not been obtained for shore based works.

The onshore works are to be undertaken by the TSO therefore the application will be submitted by the TSO.

**Response to Q.37**

The onshore wayleaves are the responsibility of the TSO (see response to Q.36, above).