

Weekly Notice of Operations (WNoO)

Beatrice Offshore Windfarm Limited Construction Operations



Notice of Operations at Beatrice Offshore Wind Farm Week 18

Work Planned for the Period 01.05.2017 to 07.05.2017

Construction of the Beatrice Offshore Wind Farm commenced on the 1st of April. Pre-construction works were completed on the 12th of April. This notice will be updated weekly giving information on the progress and resources involved in the offshore project.

The intention is to give an overview of activities and vessels involved. Should anyone have questions regarding the operations, we kindly ask you to put them forward well in advance. If you are not the appropriate recipient of these notices, or do not wish to receive the notices in the future, please let us know by reply or email (see details in Section 1).

Beatrice Offshore Windfarm Limited (BOWL) is developing the Beatrice Offshore Wind Farm in the 'Outer' Moray Firth on the north-western point of the Smith Bank, approximately 7 nm off the Caithness coastline. The development site will cover an approximate area of up to 130km² and will consist of 84 7MW offshore wind turbines (with a total capacity of 588MW) and two HVAC Offshore Transformer Modules (OTM). Water depths in the area range from approximately 38m below LAT in the south of the field to 60m below LAT in the north. The generated power will be transmitted to the grid via two subsea export / transmission cables with a landfall near Portgordon to the south of the field and grid connection at Blackhillock. The transmission cables will cover a route of approximately 38 nm from the wind farm boundary back to the landfall. The Beatrice Offshore Wind Farm development area is highlighted in red below.

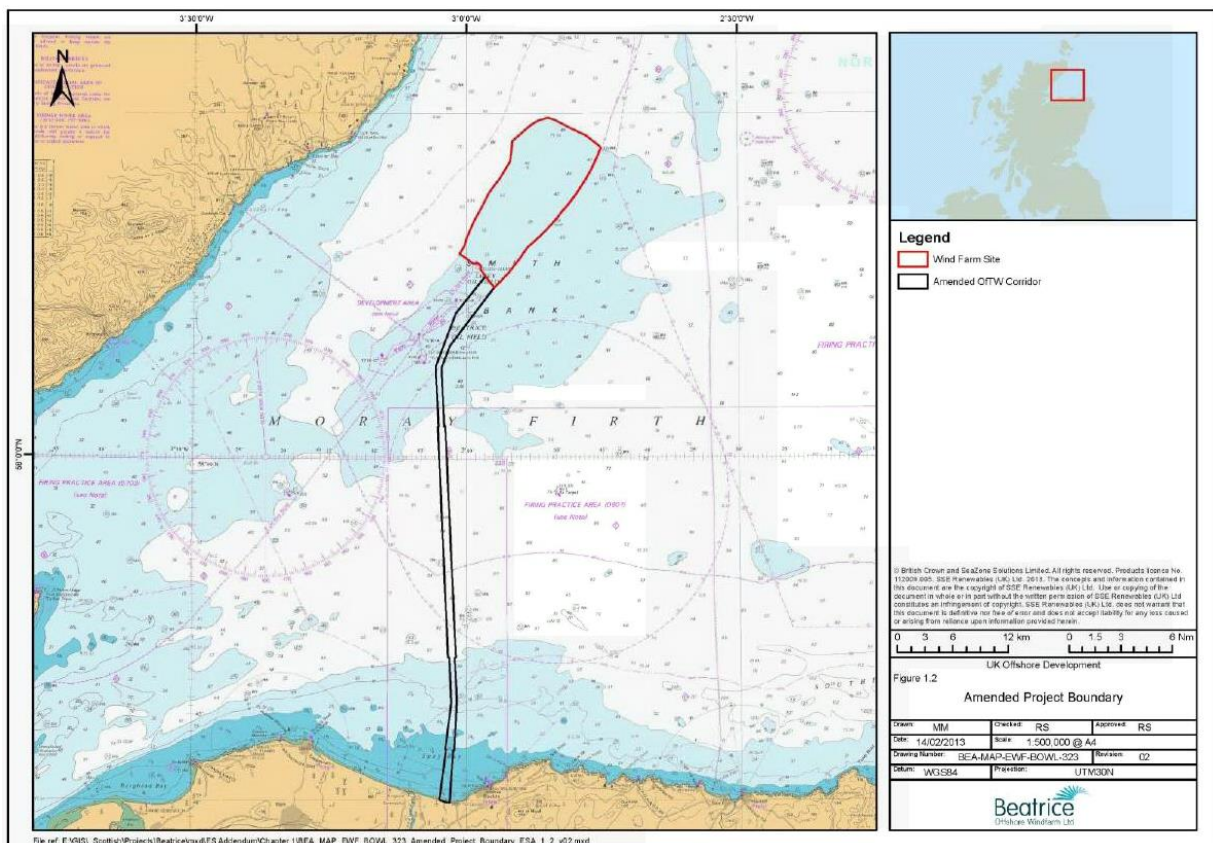


Fig 1 - Beatrice Offshore Wind Farm Location

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Installation works detailed below commenced on the 1st of April 2017. Pre-construction works scopes were completed on the 12th of April.

- Piling operations.
- Guard Vessel duties.
- Installation of Direct Cable Pipes at Portgordon near Buckie. (Detailed in this notice)

1. Contact Details for Marine Coordination

The following contact can provide more information if required. Please note that specific queries can also be addressed to the relevant vessel or shore based representative.

Telephone Number	+44 (0) 3302 020329
Emergency Contact (24/7)	+44 (0) 7342 028207
Email for Marine Coordinator	mc.bowl@sse.com
Address	Unit 1 Harbour Office Wick Caithness KW1 5HA

2. Ongoing Operations

2.1 Beatrice Offshore Wind Farm Piling Campaign

Project:	Foundation Piling Campaign
Contractor:	SHL
Contract Purpose:	To install x 4 piles at the two OTM's and each Turbine Location within the construction site.
Area:	BOWL Construction Site: Foundation Locations. (See Fig 5 for details).
Deployment Dates:	01 April 2017 - 31 October 2017.
Deployment Vessel (s):	Stanislav Yudin, Bremen Fighter, Smit Sentosa & Rix Lynx, with various tugs and associated barges.
Equipment:	Pile Installation Frame (PIF), Piling Hammer and Transport barges.

On behalf of BOWL, Seaway Heavy Lifting will deploy various vessels to carry out the aforementioned work during the period 01/04/2017 – 31/10/2017 within the boundary of the BOWL construction site (See Vessel Data Matrix).

In preparation for the installation of wind turbine foundations, in the Beatrice Offshore Windfarm construction site, a set of four piles will be installed in the seabed at each of the foundation locations. On completion, the date will be recorded in Table 1 below. A chart of piled locations will be recorded in Fig 2 below.

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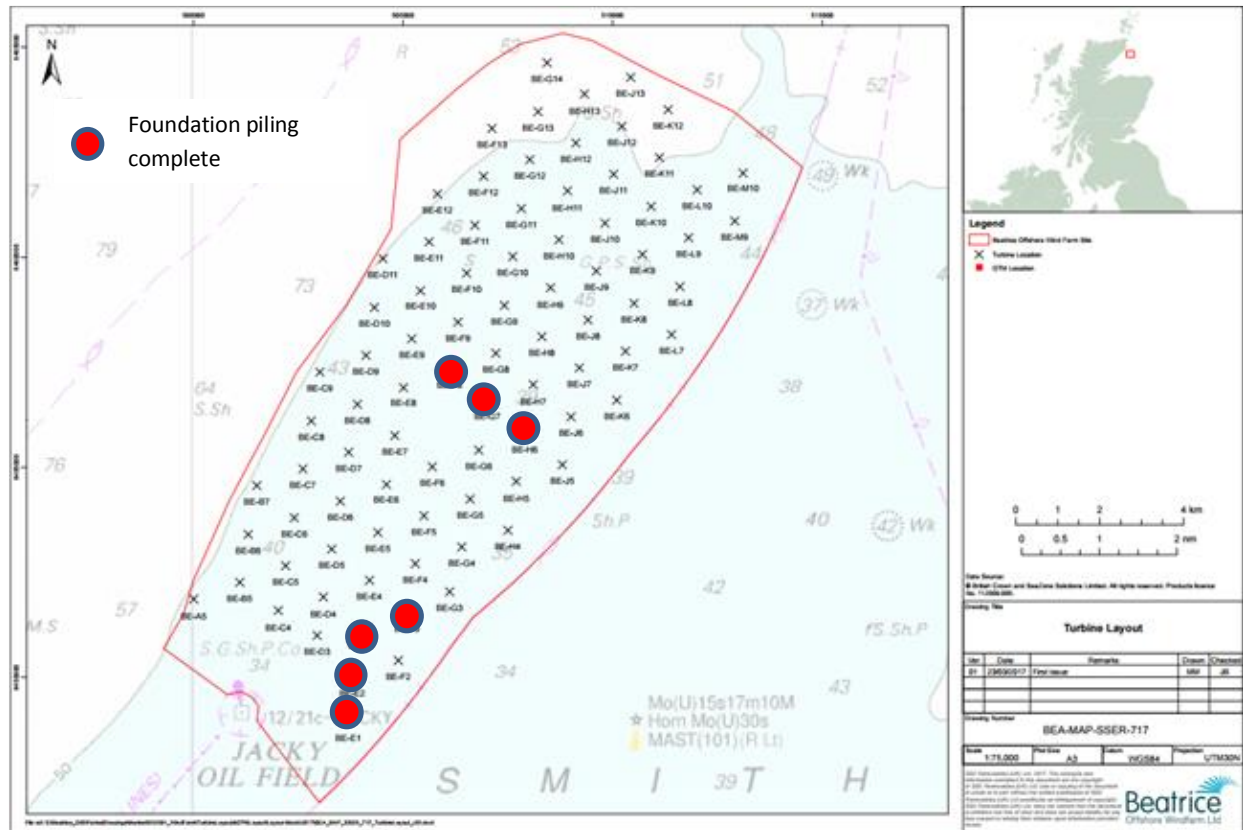


Fig 2 – Piled locations

Table 1 - WTG and OTM Location Coordinates

Location ID	Latitude WGS84	Longitude WGS84	Piling Complete
BE-A5	58 12.471' N	002 59.996' W	
BE-B5	58 12.687' N	002 58.873' W	
BE-B6	58 13.308' N	002 58.664' W	
BE-B7	58 13.929' N	002 58.456' W	
BE-C4	58 12.307' N	002 57.948' W	
BE-C5	58 12.902' N	002 57.749' W	
BE-C6	58 13.524' N	002 57.541' W	
BE-C7	58 14.144' N	002 57.332' W	
BE-C8	58 14.766' N	002 57.124' W	
BE-C9	58 15.386' N	002 56.915' W	
BE-D3	58 11.995' N	002 57.002' W	
BE-D4	58 12.497' N	002 56.834' W	
BE-D5	58 13.117' N	002 56.626' W	
BE-D6	58 13.739' N	002 56.417' W	
BE-D7	58 14.359' N	002 56.209' W	
BE-D8	58 14.981' N	002 55.999' W	
BE-D9	58 15.602' N	002 55.790' W	
BE-D10	58 16.223' N	002 55.582' W	

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Location ID	Latitude WGS84	Longitude WGS84	Piling Complete
BE-D11	58 16.844' N	002 55.373' W	
BE-E1	58 10.900' N	002 56.256' W	10.04.2017
BE-E2	58 11.470' N	002 56.128' W	14.04.2017
BE-E3	58 12.090' N	002 55.920' W	19.04.2017
BE-E4	58 12.712' N	002 55.710' W	
BE-E5	58 13.333' N	002 55.502' W	
BE-E6	58 13.954' N	002 55.293' W	
BE-E7	58 14.575' N	002 55.084' W	
BE-E8	58 15.196' N	002 54.875' W	
BE-E9	58 15.817' N	002 54.665' W	
BE-E10	58 16.438' N	002 54.456' W	
BE-E11	58 17.059' N	002 54.247' W	
BE-E12	58 17.680' N	002 54.037' W	
BE-F2	58 11.685' N	002 55.005' W	
BE-F3	58 12.306' N	002 54.796' W	17.04.2017
BE-F4	58 12.927' N	002 54.588' W	
BE-F5	58 13.548' N	002 54.378' W	
BE-F6	58 14.168' N	002 54.169' W	
BE-F8 (OTM2)	58 15.411' N	002 53.750' W	08.04.2017
BE-F9	58 16.031' N	002 53.540' W	
BE-F10	58 16.653' N	002 53.330' W	
BE-F11	58 17.274' N	002 53.120' W	
BE-F12	58 17.894' N	002 52.911' W	
BE-F13	58 18.516' N	002 52.701' W	
BE-G3	58 12.544' N	002 53.726' W	
BE-G4	58 13.142' N	002 53.464' W	
BE-G5	58 13.762' N	002 53.254' W	
BE-G6	58 14.384' N	002 53.044' W	
BE-G7 (OTM1)	58 15.004' N	002 52.834' W	03.04.2017
BE-G8	58 15.625' N	002 52.625' W	
BE-G9	58 16.247' N	002 52.415' W	
BE-G10	58 16.867' N	002 52.204' W	
BE-G11	58 17.488' N	002 51.994' W	
BE-G12	58 18.109' N	002 51.784' W	
BE-G13	58 18.730' N	002 51.574' W	
BE-G14	58 19.351' N	002 51.362' W	
BE-H4	58 13.356' N	002 52.339' W	
BE-H5	58 13.977' N	002 52.130' W	
BE-H6	58 14.598' N	002 51.920' W	20.04.2017
BE-H7	58 15.219' N	002 51.709' W	
BE-H8	58 15.840' N	002 51.499' W	
BE-H9	58 16.461' N	002 51.289' W	
BE-H10	58 17.082' N	002 51.079' W	
BE-H11	58 17.703' N	002 50.867' W	
BE-H12	58 18.324' N	002 50.657' W	
BE-H13	58 18.944' N	002 50.446' W	

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Location ID	Latitude WGS84	Longitude WGS84	Piling Complete
BE-J5	58 14.192' N	002 51.005' W	
BE-J6	58 14.812' N	002 50.795' W	
BE-J7	58 15.433' N	002 50.585' W	
BE-J8	58 16.055' N	002 50.373' W	
BE-J9	58 16.675' N	002 50.163' W	
BE-J10	58 17.296' N	002 49.952' W	
BE-J11	58 17.917' N	002 49.741' W	
BE-J12	58 18.538' N	002 49.530' W	
BE-J13	58 19.159' N	002 49.319' W	
BE-K6	58 15.027' N	002 49.669' W	
BE-K7	58 15.648' N	002 49.459' W	
BE-K8	58 16.269' N	002 49.247' W	
BE-K9	58 16.890' N	002 49.036' W	
BE-K10	58 17.510' N	002 48.825' W	
BE-K11	58 18.131' N	002 48.614' W	
BE-K12	58 18.752' N	002 48.403' W	
BE-L7	58 15.862' N	002 48.333' W	
BE-L8	58 16.482' N	002 48.122' W	
BE-L9	58 17.104' N	002 47.910' W	
BE-L10	58 17.724' N	002 47.698' W	
BE-M9	58 17.317' N	002 46.784' W	
BE-M10	58 17.938' N	002 46.571' W	

3. Beatrice Offshore Wind Farm Guard Vessel Deployment

Project:	Beatrice Offshore Windfarm Guard Vessel Deployment.
Contractor:	SHL – SFF Services Ltd.
Contract Purpose:	Guard Vessel for the Windfarm site.
Area:	BOWL construction site: within the array cable routes and foundation locations. (See Fig 1 for details)
Deployment Dates:	Consortium from 19 th April Opportune from 4 th May
Deployment Vessel (s):	Consortium PD174 Opportune WK171
Equipment:	N/A

On behalf of BOWL, Seaways Heavy Lifting has contracted the Scottish Fishermen's Federation to provide guard vessels during the piling and foundation installation campaigns. These vessels will change regularly, however apart from times of extreme weather, there will always be at least one guard vessel on station. The guard vessel's primary duty is security of the construction site by informing and warning non-construction vessels of the ongoing activities and associated Safety Zones. The guard vessel Consortium PD174 will be on station from the 19th April 2017. The Guard Vessel Opportune, WK171 will take over guard duties on the 4th May 2017.

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Consortium PD174 on station from 19th April 2017

General Description and Dimensions	Guard Vessel: L:21.0m B:7.0m D: 2.6m
Call Sign:	MNYQ5
MMSI:	235000620
On Board Contact:	N McLean
E-mail:	ops@sff.co.uk
Onshore Representative:	SFF Services Limited Office. Tel: 01224 646966



Opportune WK 171 on station from 19th April 2017

General Description and Dimensions	Guard Vessel: L:21.0m B:7.0m D: 3.5m
Call Sign:	2WKN
MMSI:	233608000
On Board Contact:	D Frazer
E-mail:	ops@sff.co.uk
Onshore Representative:	SFF Services Limited Office. Tel: 01224 646966



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4 Export Cable Installation Stage 1 – Installation of Direct Cable Pipes at Portgordon

Project:	Export Cable Installation Stage 1 Commences April 2017.
Contractor:	Nexans
Contract Purpose:	Installation of Direct Cable Pipes at Portgordon
Area:	Portgordon near Buckie
Deployment Dates:	Approximately 18 th April to 30 th June 2017.
Deployment Vessel (s):	Haven Seariser 1, Forth Constructor & Skua
Equipment:	Diving operations, tunnelling & seabed preparation equipment.

BOWL intends to install the export cables beneath Portgordon Beach. Pre-installed Direct Cable Pipes require to be installed from the shoreline to an offshore exit point. These pipes are installed using a micro-tunnelling machine pushed through the ground beneath the seabed. At the exit points approximately 420-450m offshore, the removal of the Tunnelling tool and excavation works associated with this operation will take place. During this period Diving & Underwater operations shall be conducted.

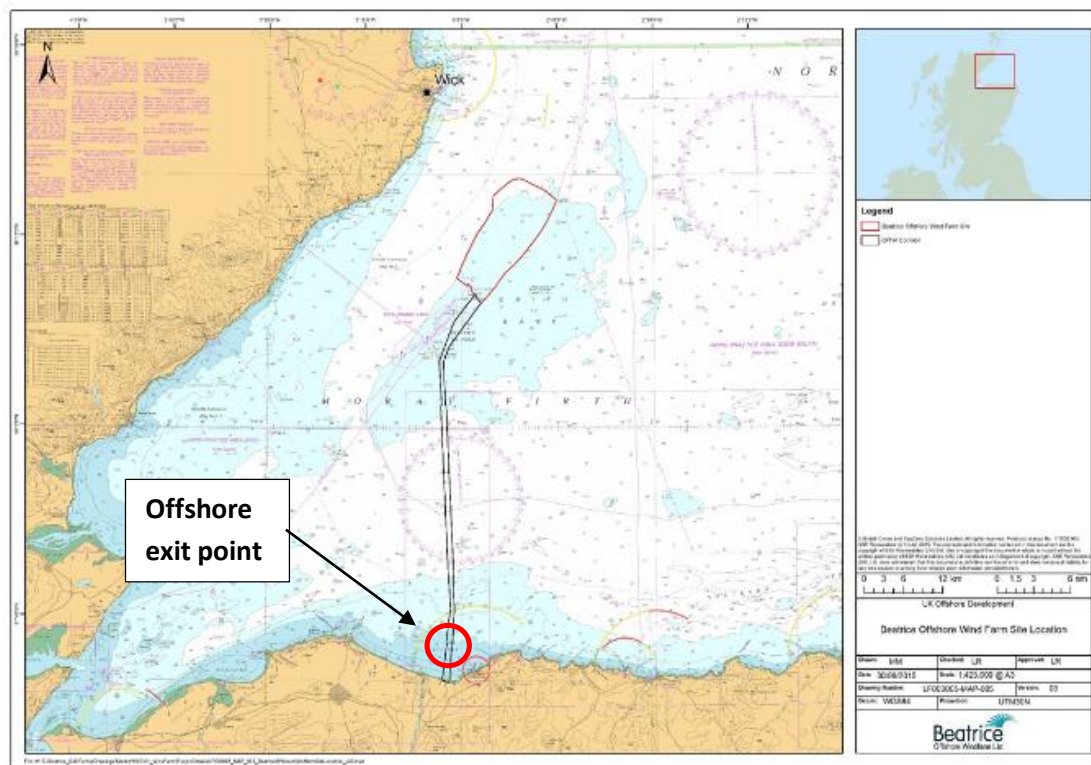
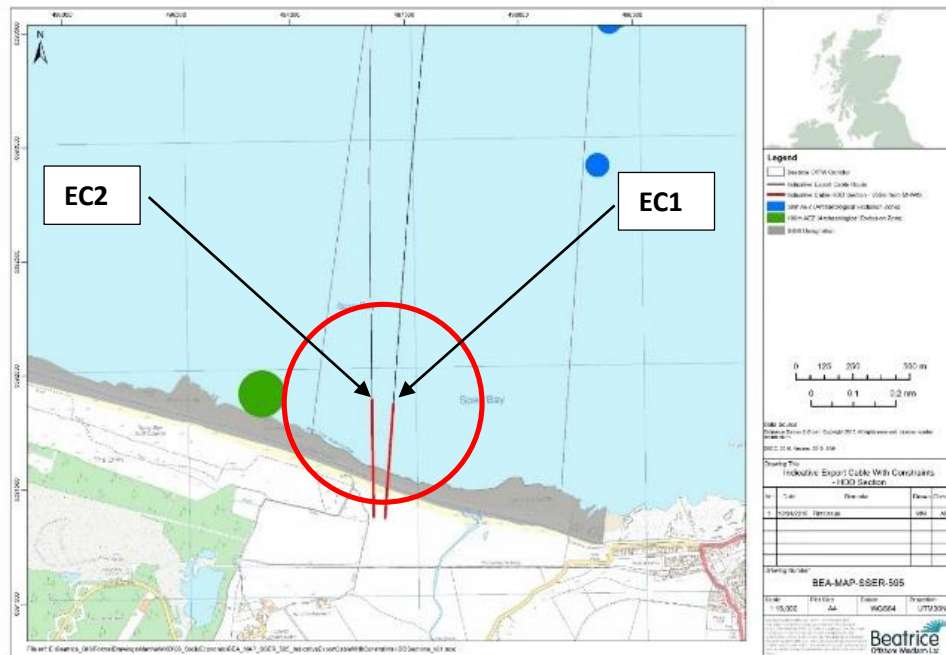


Fig 3. Offshore exit point, approximately 420-450m from the Portgordon Beach.

Jack Up Barge Locations	Latitude WGS84	Longitude WGS84
EC1	57° 40.113'N	003° 02.471'W
EC2	57° 40.143'N	003° 02.655'W

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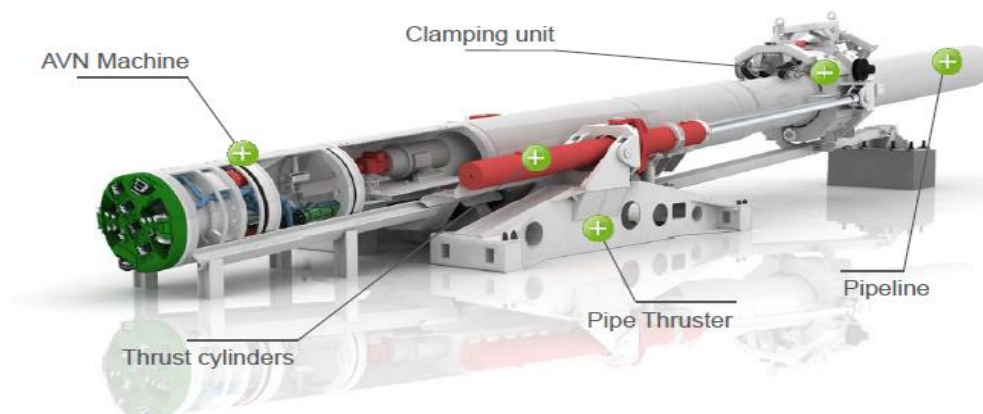


Work locations are approximately 420-450m from the Portgordon Beach near Buckie.

Direct pipe drilling, this method installs the pipe directly as part of the drilling operation, is suitable for sea outfalls as the pipeline is simultaneously installed whilst the borehole is being drilled. The pipeline provides support reducing the risk of borehole collapse in soft sediments

This method is referred to as 'direct pipe' because in a single step, a prefabricated pipeline can be installed and the required duct excavated at the same time. Once installed, the pipeline permanently supports the ducts, thus avoiding the risk of collapse. Seabed sediments are excavated by a micro-tunnelling machine and excavated material is pumped out via the prefabricated pipeline, which is connected to the tunnelling machine. The tunnelling system is lubricated with Bentonite solution.

Main system components of the Direct Pipe drill method

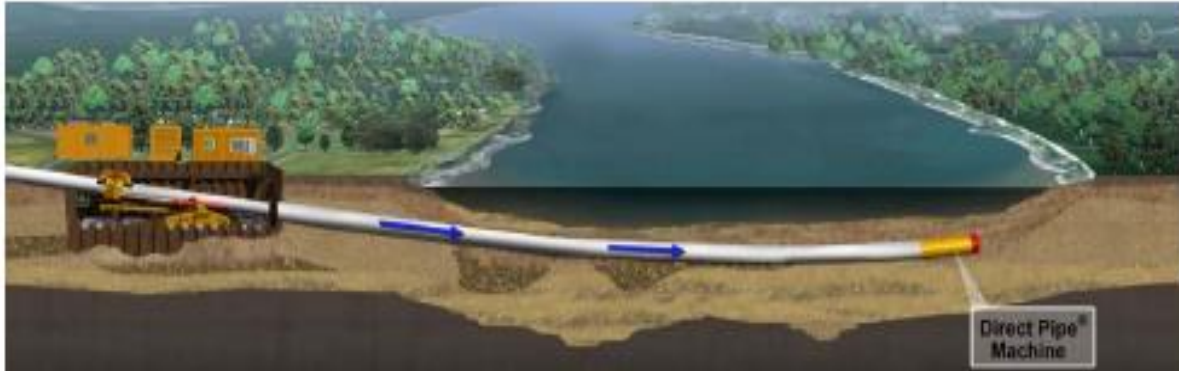


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The micro-tunnelling machine and pipeline behind it are pushed into the ground from onshore by a pipe thruster from a launch pit. The cutting wheel at the machines head breaks down and removes the material as it is directed along the determined route beneath the seabed.



The drill machine is disconnected once it reaches the appropriate distance offshore and is recovered by divers or crane barge once it reaches the outfall. The pipe opening is then sealed to prevent sediment entering the pipeline.


If any difficulties are encountered, the pipe thruster can pull back the pipeline together with the Direct Pipe machine to begin the process again.

Direct Pipe methodology offers a number of benefits over HDD for installation; allowing a shallower profile that results in fewer transmission losses and reduced installation risks.

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4.1 Vessels Involved with Installation of Direct Cable Pipes at Portgordon

Haven Seariser 1	
General Description and Dimensions	Jack Up Barge, L:29.6 / B:17.07 / D:2.44
Call Sign:	N/A
MMSI:	N/A
On Board Contact:	Kristen branford & Paul Ridout
E-mail:	enquiries@r7m.co.uk
Onshore Representative:	Øyvind Haug BEATRICE Installation Engineering Manager Mob: +47 916 27 674 Office: +47 22 88 65 09
	

Forth Constructor	
General Description and Dimensions	Multicat Work Vessel.L:28.50m B:9.45m D:4.27m
Call Sign:	GXAD
MMSI:	235004217
On Board Contact:	Graham Gray
E-mail:	(e) marketing@briggsmarine.com
Onshore Representative:	Øyvind Haug BEATRICE Installation Engineering Manager Mob: +47 916 27 674 Office: +47 22 88 65 09
	

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Beatrice Offshore Windfarm Limited Construction Operations

Skua	
General Description and Dimensions	Crew Transfer Vessel, L:10.5m B:3.51m D:1.1m
Call Sign:	N/A
MMSI:	N/A
On Board Contact:	Bill Ruck
E-mail:	bill@moraymarine.com
Onshore Representative:	Øyvind Haug BEATRICE Installation Engineering Manager Mob: +47 916 27 674 Office: +47 22 88 65 09



5. General Safety Advice

All vessels engaged in the activity will exhibit appropriate lights and shapes prescribed by the International Regulations for Preventing Collisions at Sea; relative to their operations. All vessels engaged in the activity will also transmit an Automatic Identification System (AIS) message.

The Secretary of State has authorised the use of the following safety zones as per Notice to Mariners LF000005-NTM-004.

1. 500 metres radius around each wind turbine, offshore transformer module and/or their substructures and foundations comprising the Beatrice Offshore Wind Farm whilst work is being performed as indicated by the presence of construction vessels.
2. 50 metres radius around each wind turbine, offshore transformer module and/or their substructure and foundations installed but waiting to be commissioned as part of the Beatrice Offshore Wind Farm.

ALL VESSELS ARE REQUESTED to give all construction and support vessels a wide berth.

MARINERS ARE REMINDED to navigate with caution and keep continued watch on VHF Ch. 70 / 16 when navigating the area.

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6. Dedicated Guard Vessel

The Guard Vessel Consortium PD174 has been on station since the 19th of April 2017.

The Guard Vessel Opportune WK171 will take over guard duties from the 4th May 2017

Guard Vessels can be contacted on VHF Ch16 and Ch13

7. Fisheries Liaison

Fisheries liaison associated with the activity will be co-ordinated by Brown and May Marine. For any commercial fishery queries please contact: Alex Winrow-Giffin, telephone: +44 (0)1379 872144 and mobile: +44 (0)7760 160039.

8. Distribution List

The distribution of this notice is as per email recipient's header. A central list of recipients is maintained by the Marine Coordinator; if you are not the appropriate recipient of these notices, or do not wish to receive the notices in the future, please contact us at the address included in Section 1 of this notice.

9. Website

The official website of Beatrice Offshore Windfarm Limited can be found at:

<https://www.beatricewind.com/>

This contains all Notices to Mariners (NtM) published by BOWL and all Weekly Notices of Operations, together with a large amount of general information about the Project.

There is also a Twitter feed at <https://twitter.com/beatricewind>.

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Construction Operations



Reference to Marine Licence
Conditions 2.5, 2.6 and 3.1.2

Vessel Data Matrix



No Ref	Vessel Picture	Vessel Name / Flag	Type / Function	Operator	Contact / contact details	Call sign / MMSI / IMO	LOA (m) Beam (m) Draft (m)	Date on Site
1		Bremen Fighter	Anchor Handling Tug assisting the Stanislav Yudin	Seaway Heavy Lifting (SHL)	Danny Sprangers (SHL) C/o Subsea 7 East Campus Amhall Business Park Westhill, Aberdeenshire AB32 6FE +31 653997158 EMAIL:dsprangers@shl.nl	V20Y1 / 304742000	48.1 / 14.06 / 6.0	27.03.2017
2		Stanislav Yudin	Heavy Lift Vessel	Seaway Heavy Lifting (SHL)	Danny Sprangers (SHL) C/o Subsea 7 East Campus Amhall Business Park Westhill, Aberdeenshire AB32 6FE +31 653997158 EMAIL:dsprangers@shl.nl	5BYM2 / 210334000	183.3 / 40.0 / 8.9	27.03.2017
3		Smit Sentosa	Anchor Handling Tug assisting the Stanislav Yudin	Seaway Heavy Lifting (SHL)	Danny Sprangers (SHL) C/o Subsea 7 East Campus Amhall Business Park Westhill, Aberdeenshire AB32 6FE +31 653997158 EMAIL:dsprangers@shl.nl	ORRX / 205696000	51.8 / 15.0 / 6.2	27.03.2017
4		Rix Lynx	Crew Transfer Vessel / CTV	Seaway Heavy Lifting (SHL)	Danny Sprangers (SHL) C/o Subsea 7 East Campus Amhall Business Park Westhill, Aberdeenshire AB32 6FE +31 653997158 EMAIL:dsprangers@shl.nl	2JGQ8 / 235115745	26 / 7.0 / 2.0	27.03.2017
5		Union Boxer	Barge Tow Vessel	Seaway Heavy Lifting (SHL)	Danny Sprangers (SHL) C/o Subsea 7 East Campus Prospect Road Amhall Business Park Westhill, Aberdeenshire AB32 6FE +31 653997158 EMAIL:dsprangers@shl.nl	ORPS / 205575000	40.6 / 21.5 / 6.3	01.04.2017
6		Consortium PD174	Guard Vessel	Seaway Heavy Lifting (SHL)	Danny Sprangers (SHL) C/o Subsea 7 East Campus Amhall Business Park Westhill, Aberdeenshire AB32 6FE +31 653997158 EMAIL:dsprangers@shl.nl	MNYQ5/23500062 0	21.0 / 7.0 / 2.6	19. 04. 2017
7		Opportune WK171	Guard Vessel	Seaway Heavy Lifting (SHL)	Danny Sprangers (SHL) C/o Subsea 7 East Campus Amhall Business Park Westhill, Aberdeenshire AB32 6FE +31 653997158 EMAIL:dsprangers@shl.nl	2WKN/233608000	21.0 / 7.0 / 3.5	04.05.2017
8		Union Princess	Barge Tow Vessel	Seaway Heavy Lifting (SHL)	Danny Sprangers (SHL) C/o Subsea 7 East Campus Amhall Business Park Westhill, Aberdeenshire AB32 6FE +31 653997158 EMAIL:dsprangers@shl.nl	ORQU/205642000	67 / 16 / 6.2	16.04. 2017

Name and Registered Office: Beatrice Offshore Windfarm Limited. One Waterloo Street, Glasgow. G2 6AY

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Reference to Marine Licence
Conditions 2.5, 2.6 and 3.1.2

Vessel Data Matrix for Buckie



No Ref	Vessel Picture	Vessel Name / Flag	Type / Function	Vessel Contact / Master's name	Company Name / Contact / contact details	Call sign / MMSI / IMO	LOA (m) Beam (m) Draft (m)	Date on Site
1		Haven Seariser 1	Jack Up mobile barge.	Kristen branford & Paul Ridout	Red7marine+44(0) 1255 886 710 www.red7marine.co.uk enquiries@r7m.co.uk	N/A	29.6 / 17.07 / 2.44	06.05.2017
2		MV Skua	Crew Transfer Vessel / CTV.	Bill Ruck 07775802963 bill@moraymarine.com	Moray First Marine Ltd Wester Oldtown Roseisle Elgin Moray IV30 5YD	N/A	10.5 / 3.51 / 1.1	06.05.2017
3		Forth Constructor	Service Vessel	Graham Gray	Briggs Marine & Environmental Services Head Office Seaforth House Seaforth Place Burntisland Fife KY3 9AX	GXAD / 235004217	L:28.50m B:9.45m D:4.27m	06.05.2017