

# Weekly Notice of Operations (WNoO)

## Beatrice Offshore Windfarm Limited

### Construction Operations



Issue Date: 12th March 2018

LF000005-WNO-013: Weekly Notice of Operations - Rev 45

#### Notice of Operations at Beatrice Offshore Wind Farm

#### Work Planned for the Period 12.03.2018 to 18.03.2018

Construction of the Beatrice Offshore Wind Farm commenced on the 1<sup>st</sup> of April 2017. 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.

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 130km<sup>2</sup> 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, the OFTW cable corridor in black.

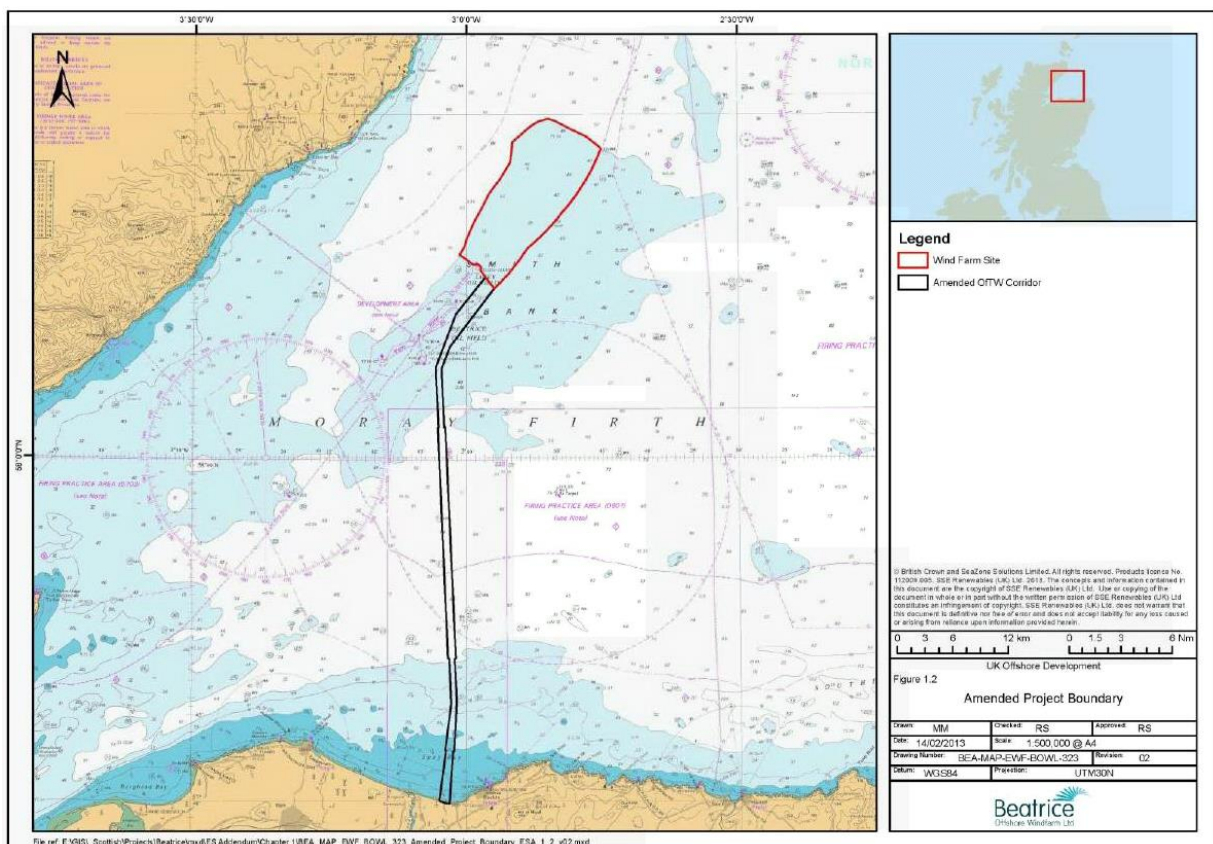


Fig. 1 Beatrice Offshore Wind Farm Location

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LF000005-WNO-013: Weekly Notice of Operations - Rev 45

#### 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.

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

#### 2. Ongoing Operations

##### 2.1 Beatrice Offshore Wind Farm Jacket Installation Campaign

<b>Project:</b>	Jacket Installation Campaign (See Notice to Mariners) NTM-032 Rev01
<b>Contractor:</b>	SHL
<b>Contract Purpose:</b>	To install WTG & OTM Jackets at completed piled locations within the construction site.
<b>Area:</b>	BOWL Construction Site: Jacket Locations (See Fig. 2 Table1)
<b>Deployment Dates:</b>	08 August 2017 – September 2018
<b>Deployment Vessels:</b>	HLV Stanislav Yudin, AHT Union Sovereign, Vos Prelude, Centaurus, Pegasus, Smit Sentosa, Smit Seraya, Bremen Fighter
<b>Equipment:</b>	HLV equipment, Pile cleaning equipment, Grouting equipment.

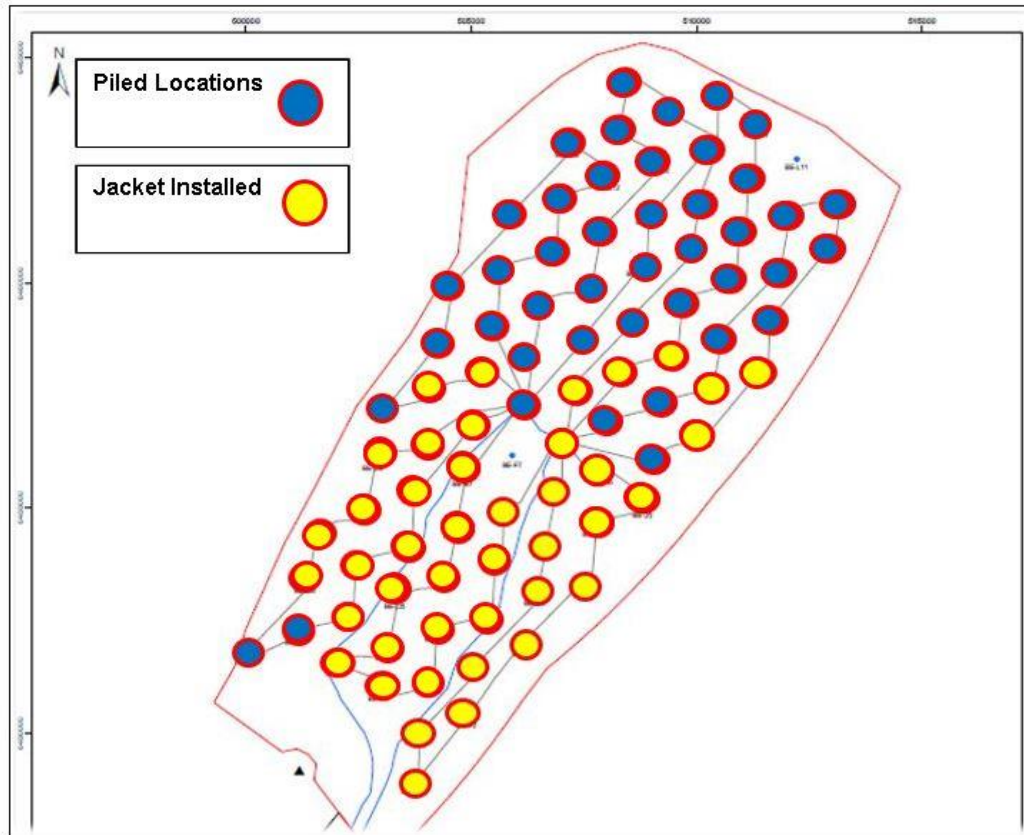
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**Fig. 2** Pile installation completed at 86 Locations

Foundation installation completed at 43 Locations

**Table 1 - WTG and OTM Location Coordinates**

Location ID	Latitude WGS84	Longitude WGS84	Piling Complete	Jacket installed
BE-A5	58° 12.471' N	002° 59.996' W	14.07.2017	
BE-B5	58° 12.687' N	002° 58.873' W	12.07.2017	
BE-B6	58° 13.308' N	002° 58.664' W	16.06.2017	22.02.2018
BE-B7	58° 13.929' N	002° 58.456' W	18.07.2017	20.02.2018
BE-C4	58° 12.307' N	002° 57.948' W	23.05.2017	13.12.2017
BE-C5	58° 12.902' N	002° 57.749' W	11.07.2017	09.02.2018
BE-C6	58° 13.524' N	002° 57.541' W	10.07.2017	08.02.2018
BE-C7	58° 14.144' N	002° 57.332' W	15.06.2017	01.09.2017
BE-C8	58° 14.766' N	002° 57.124' W	17.07.2017	20.01.2018
BE-C9	58° 15.386' N	002° 56.915' W	28.08.2017	
BE-D3	58° 11.995' N	002° 57.002' W	21.05.2017	12.12.2017
BE-D4	58° 12.497' N	002° 56.834' W	22.06.2017	14.12.2017
BE-D5	58° 13.117' N	002° 56.626' W	26.05.2017	21.01.2018
BE-D6	58° 13.739' N	002° 56.417' W	13.06.2017	31.08.2017

# Weekly Notice of Operations (WNoO)

## Beatrice Offshore Windfarm Limited Construction Operations



Issue Date: 12th March 2018

LF000005-WNO-013: Weekly Notice of Operations - Rev 45

Location ID	Latitude WGS84	Longitude WGS84	Piling Complete	Jacket installed
BE-D7	58° 14.359' N	002° 56.209' W	31.05.2017	18.01.2018
BE-D8	58° 14.981' N	002° 55.999' W	02.06.2017	20.12.2017
BE-D9	58° 15.602' N	002° 55.790' W	16.07.2017	21.09.2017
BE-D10	58° 16.223' N	002° 55.582' W	31.08.2017	
BE-D11	58° 16.844' N	002° 55.373' W	13.08.2017	
BE-E1	58° 10.900' N	002° 56.256' W	10.04.2017	01.09.2017
BE-E2	58° 11.470' N	002° 56.128' W	14.04.2017	16.08.2017
BE-E3	58° 12.090' N	002° 55.920' W	19.04.2017	02.12.2017
BE-E4	58° 12.712' N	002° 55.710' W	02.07.2017	20.09.2017
BE-E5	58° 13.333' N	002° 55.502' W	19.05.2017	03.02.2018
BE-E6	58° 13.954' N	002° 55.293' W	18.05.2017	24.08.2017
BE-E7	58° 14.575' N	002° 55.084' W	01.06.2017	25.08.2017
BE-E8	58° 15.196' N	002° 54.875' W	30.05.2017	18.12.2017
BE-E9	58° 15.817' N	002° 54.665' W	15.07.2017	21.09.2017
BE-E10	58° 16.438' N	002° 54.456' W	01.09.2017	
BE-E11	58° 17.059' N	002° 54.247' W	19.09.2017	
BE-E12	58° 17.680' N	002° 54.037' W	14.08.2017	
BE-F2	58° 11.685' N	002° 55.005' W	03.07.2017	06.09.2017
BE-F3	58° 12.306' N	002° 54.796' W	17.04.2017	07.09.2017
BE-F4	58° 12.927' N	002° 54.588' W	04.07.2017	19.09.2017
BE-F5	58° 13.548' N	002° 54.378' W	17.05.2017	14.09.2017
BE-F6	58° 14.168' N	002° 54.169' W	11.05.2017	11.09.2017
BE-F8 (OTM2)	58° 15.411' N	002° 53.750' W	08.04.2017	
BE-F9	58° 16.031' N	002° 53.540' W	22.09.2017	
BE-F10	58° 16.653' N	002° 53.330' W	20.09.2017	
BE-F11	58° 17.274' N	002° 53.120' W	07.09.2017	
BE-F12	58° 17.894' N	002° 52.911' W	05.07.2017	
BE-F13	58° 18.516' N	002° 52.701' W	10.09.2017	
BE-G3	58° 12.544' N	002° 53.726' W	28.05.2017	15.08.2017
BE-G4	58° 13.142' N	002° 53.464' W	17.06.2017	08.09.2017
BE-G5	58° 13.762' N	002° 53.254' W	10.05.2017	09.09.2017
BE-G6	58° 14.384' N	002° 53.044' W	06.05.2017	20.08.2017
BE-G7 (OTM1)	58° 15.004' N	002° 52.834' W	03.04.2017	06.02.2018
BE-G8	58° 15.625' N	002° 52.625' W	07.07.2017	10.09.2017
BE-G9	58° 16.247' N	002° 52.415' W	04.11.2017	
BE-G10	58° 16.867' N	002° 52.204' W	21.09.2017	
BE-G11	58° 17.488' N	002° 51.994' W	20.08.2017	
BE-G12	58° 18.109' N	002° 51.784' W	18.08.2017	
BE-G13	58° 18.730' N	002° 51.574' W	13.09.2017	
BE-G14	58° 19.351' N	002° 51.362' W	14.09.2017	
BE-H4	58° 13.356' N	002° 52.339' W	19.06.2017	13.08.2017
BE-H5	58° 13.977' N	002° 52.130' W	20.06.2017	27.08.2017
BE-H6	58° 14.598' N	002° 51.920' W	20.04.2017	21.08.2017
BE-H7	58° 15.219' N	002° 51.709' W	08.07.2017	
BE-H8	58° 15.840' N	002° 51.499' W	06.05.2017	13.09.2017



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LF000005-WNO-013: Weekly Notice of Operations - Rev 45

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BE-H9	58° 16.461' N	002° 51.289' W	15.11.2017	
BE-H10	58° 17.082' N	002° 51.079' W	27.10.2017	
BE-H11	58° 17.703' N	002° 50.867' W	10.10.2017	
BE-H12	58° 18.324' N	002° 50.657' W	09.09.2017	
BE-H13	58° 18.944' N	002° 50.446' W	07.10.2017	
BE-J5	58° 14.192' N	002° 51.005' W	04.05.2017	26.08.2017
BE-J6	58° 14.812' N	002° 50.795' W	21.06.2017	
BE-J7	58° 15.433' N	002° 50.585' W	06.08.2017	
BE-J8	58° 16.055' N	002° 50.373' W	12.06.2017	22.12.2017
BE-J9	58° 16.675' N	002° 50.163' W	04.08.2017	
BE-J10	58° 17.296' N	002° 49.952' W	03.12.2017	
BE-J11	58° 17.917' N	002° 49.741' W	26.08.2017	
BE-J12	58° 18.538' N	002° 49.530' W	27.08.2017	
BE-J13	58° 19.159' N	002° 49.319' W	08.10.2017	
BE-K6	58° 15.027' N	002° 49.669' W	07.08.2017	24.12.2017
BE-K7	58° 15.648' N	002° 49.459' W	08.08.2017	30.12.2017
BE-K8	58° 16.269' N	002° 49.247' W	31.07.2017	
BE-K9	58° 16.890' N	002° 49.036' W	05.08.2017	
BE-K10	58° 17.510' N	002° 48.825' W	21.08.2017	
BE-K11	58° 18.131' N	002° 48.614' W	25.08.2017	
BE-K12	58° 18.752' N	002° 48.403' W	09.10.2017	
BE-L7	58° 15.862' N	002° 48.333' W	09.08.2017	01.01.2018
BE-L8	58° 16.482' N	002° 48.122' W	25.07.2017	
BE-L9	58° 17.104' N	002° 47.910' W	31.07.2017	
BE-L10	58° 17.724' N	002° 47.698' W	30.07.2017	
BE-M9	58° 17.317' N	002° 46.784' W	27.07.2017	
BE-M10	58° 17.938' N	002° 46.571' W	28.07.2017	

## 2.2 Installation of Export Cable EC1.

### Activity Description

On behalf of BOWL, CLV Nexans Skagerrak and Island Crown have now completed the pull-in of EC1 to OTM1. A Turn Point Anchor and Pull-In Bow have been temporarily stored on the seabed in the positions detailed in Fig 3. Prior to the next second end pull-in of EC2 to OTM2 the Turn Point Anchor and Pull-In Bow will be moved to a position outside OTM 2.

# Weekly Notice of Operations (WNoO)

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### Construction Operations

Issue Date: 12th March 2018

LF000005-WNO-013: Weekly Notice of Operations - Rev 45

locations	Latitude WGS84	Longitude WGS84
Turn Point Anchor	58° 14.925' N	002° 52.935' W
Pull in Bow	58° 14.910' N	002° 52.957' W

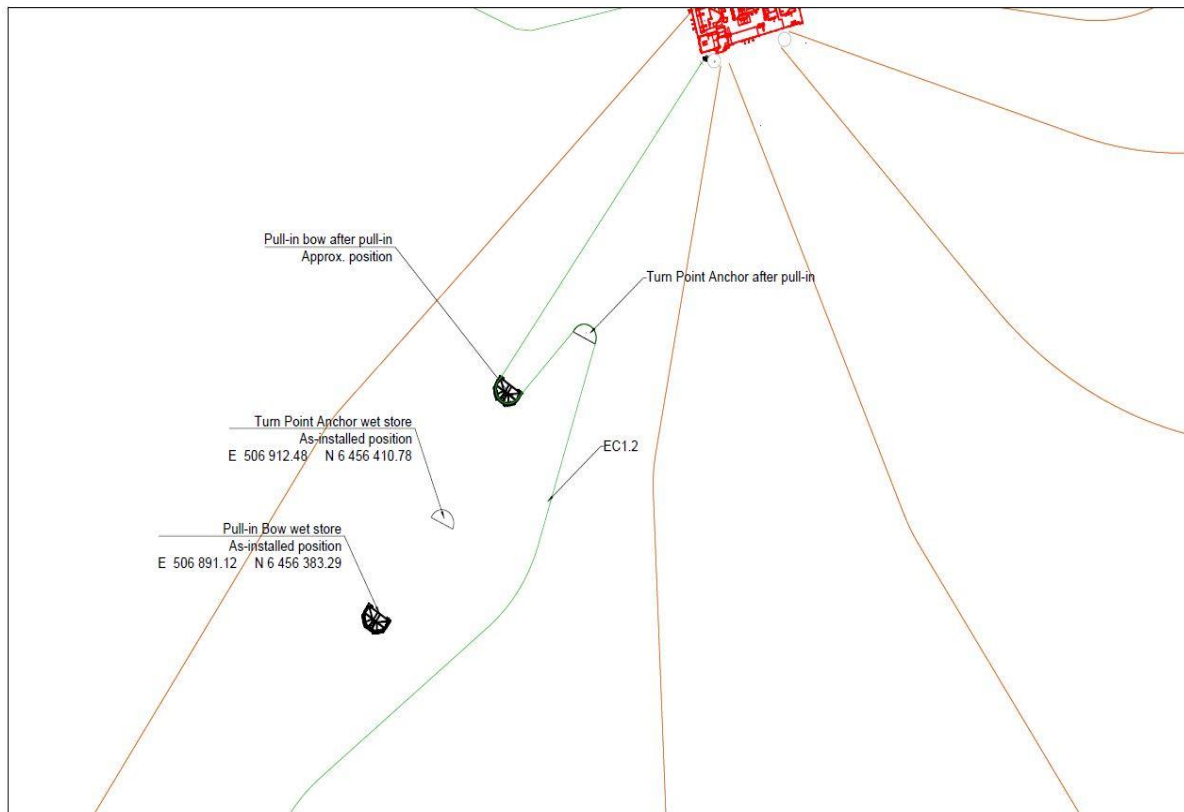


Fig 3 Showing seabed locations of Turn Point Anchor & Pull-In Bow.

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## Beatrice Offshore Windfarm Limited

### Construction Operations

Issue Date: 12th March 2018

LF000005-WNO-013: Weekly Notice of Operations - Rev 45

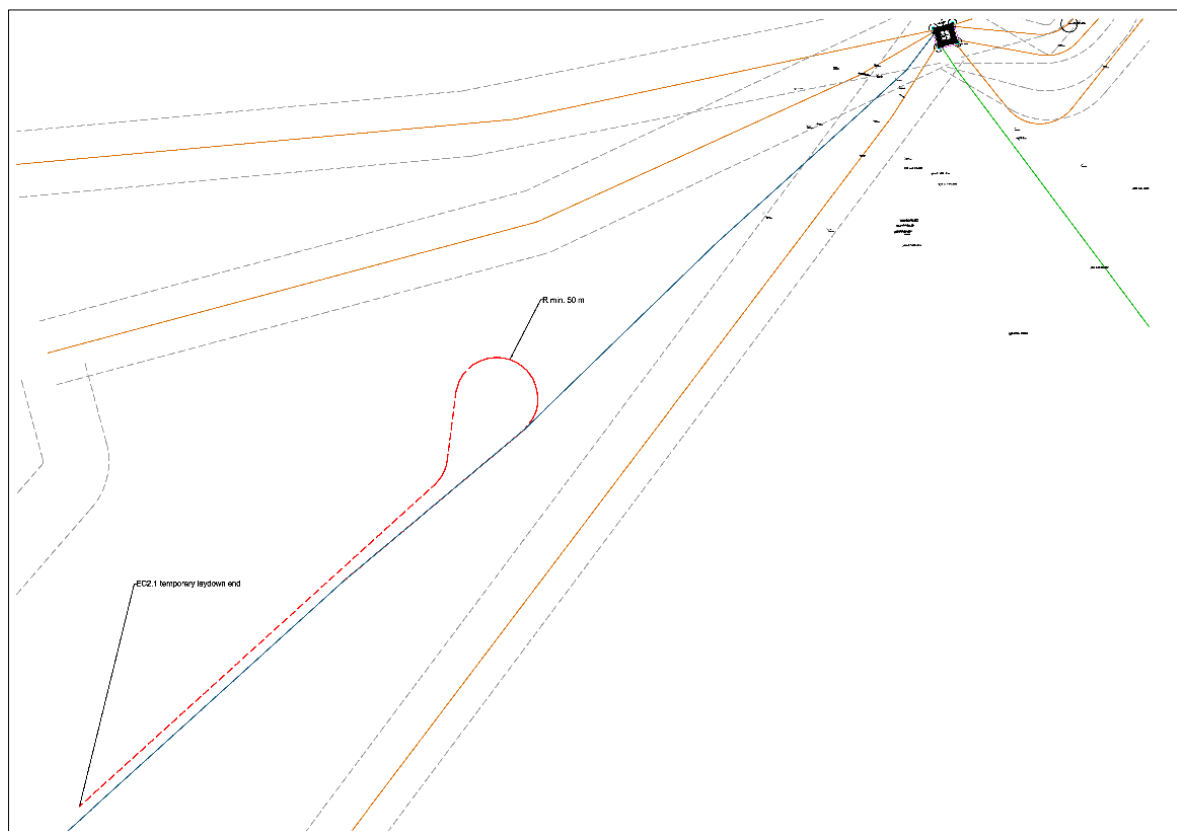
### 2.3 Installation of Export Cable EC2.2

CLV Nexans Skagerrak has completed trenching the second section of the export cable to the wet store loop at KP 67

Approximate location of cable laydown ends EC2.2	Latitude WGS84	Longitude WGS84
KP 68 on EC2	58° 14.9062' N	2° 54.8284' W
KP 33 on EC2	57° 57.5978' N	3° 2.6611' W

### Activity Description

The cable end has been deployed South of the planned OTM2, and the cable laid Northwards in a loop and then South following the planned cable route from KP68 to KP33



**Fig.4** EC2.2 laying south of OTM2, showing location of cable loop.

The second cable end is laid down on seabed approx. 37 km south of the OTM2

# Weekly Notice of Operations (WNoO)

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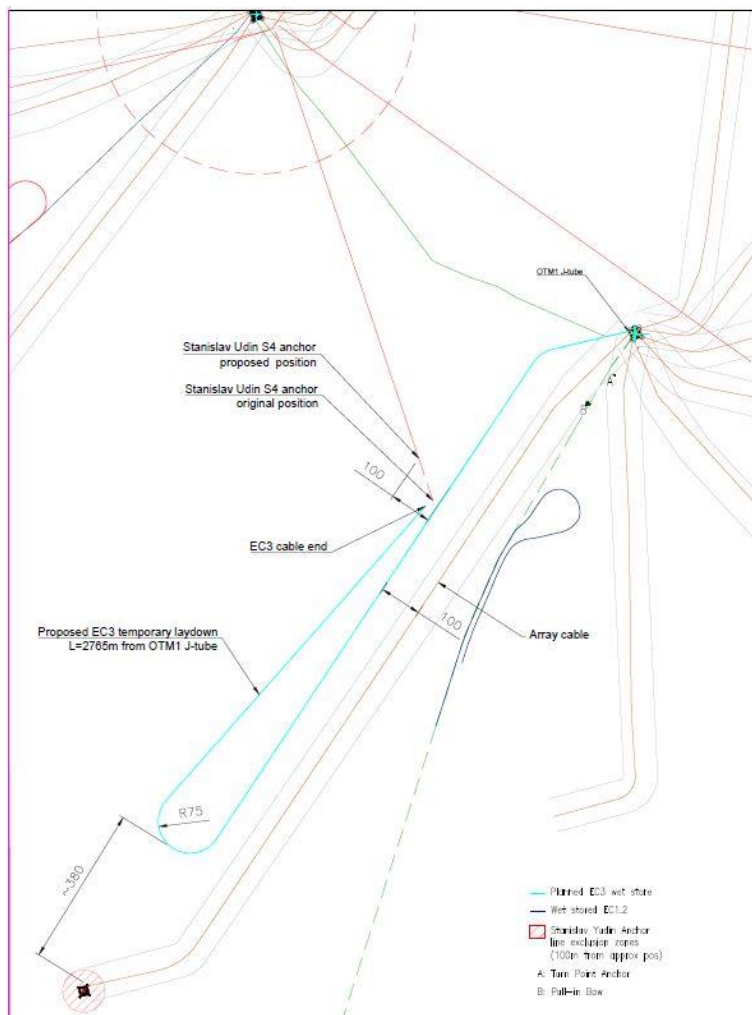
### Construction Operations

Issue Date: 12th March 2018

LF000005-WNO-013: Weekly Notice of Operations - Rev 45

#### 2.4 Export Cable 3 – Pull-In and wet store.

Nexans Skagerrak and island Crown will conduct the pull-in and wet store of the EC3 interconnector cable. On completion of the pull in the cable will be laid on the seabed in a South Westerly direction, looped to the West and then laid Northwards with the cable end laid on the seabed. The cable will be recovered and re-routed at a later date. See Fig5 below.



**Fig 5 – EC3 wet store location.**



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### Construction Operations

Issue Date: 12th March 2018

LF000005-WNO-013: Weekly Notice of Operations - Rev 45

#### 2.4.1 Vessels Involved in Activity

Nexans Skagerrak	
<b>General Description and Dimensions:</b>	Cable Layer & Trenching L:99.75m / B:35.41m
<b>Call Sign:</b>	LCEK
<b>MMSI:</b>	257253000
<b>Onshore Representative:</b>	Øyvind Haug BEATRICE Installation Engineering Manager Mob: +47 916 27 674 Office: +47 22 88 65 09



Island Crown	
<b>General Description and Dimensions:</b>	Accommodation and 'Walk to Work' vessel L:96.8m / B:20m
<b>Call Sign:</b>	LACO8
<b>MMSI:</b>	257245000
<b>Onshore Representative:</b>	Øyvind Haug BEATRICE Installation Engineering Manager Mob: +47 916 27 674 Office: +47 22 88 65 09

# Weekly Notice of Operations (WNoO)

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### Construction Operations

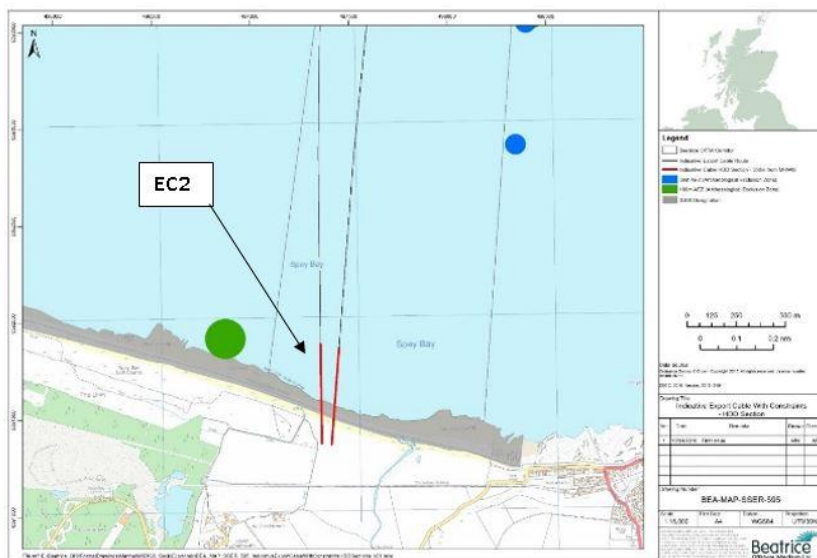
Issue Date: 12th March 2018

LF000005-WNO-013: Weekly Notice of Operations - Rev 45



## 2.5 Export Cable 2 – Near Shore Diving Works.

On behalf of Nexans Norway AS, Agder Dykk AS has installed a plastic pull in pipe to the already installed intake of the Export cable landfall pipe on Export Cable 2. The associated vessels have left site until further notice.



**Fig 6 Location of Near Shore Diving Works.**

# Weekly Notice of Operations (WNoO)

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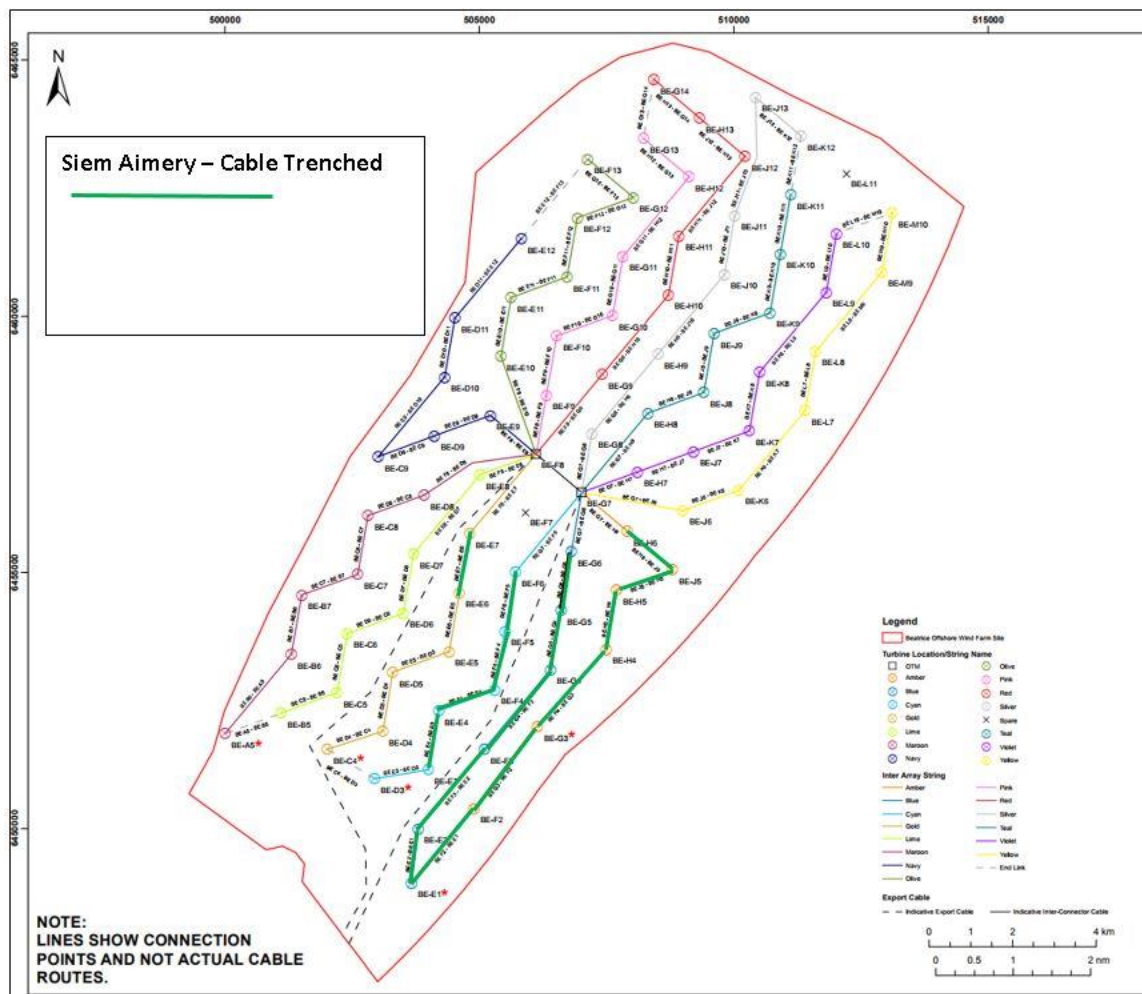
### Construction Operations

Issue Date: 12th March 2018

LF000005-WNO-013: Weekly Notice of Operations - Rev 45

Exit pipe marker buoy Location	Latitude WGS84	Longitude WGS84
EC2 pipe exit	57°40.143'N	003° 02.655'W

## 2.6 Inter Array Cable Pre Lay Grapnel Run (PLGR) & Inter Array Cable Installation



**Fig. 7 Cable installation Progress**

The CLV Siem Aimery will install up to 34 Inter Array Cables during the second cable installation campaign, programmed to commence on the 10<sup>th</sup> of March 2018. Prior to installation, cable routes will be cleared of any surface debris by performing a pre-lay grapnel run (PLGR). The cables will be laid and buried between the Wind Turbine Generator (WTG) & Offshore Transformer Module (OTM) foundations listed below. Cable burial will be undertaken by a tracked jet trencher launched from the Siem Aimery. Three trenching trial cables will be surface laid and secured by clump weights. These trial cables



# Weekly Notice of Operations (WNoO)

## Beatrice Offshore Windfarm Limited

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Issue Date: 12th March 2018

LF000005-WNO-013: Weekly Notice of Operations - Rev 45

will be trenched/recovered during the third cable installation campaign during July/August 2018. The sequence below is indicative only and subject to amendment. Sixteen (16) cables were laid and buried during campaign 1 in Nov/Dec 2017

The CSV Siem Barracuda will support inter-array cable installation activities in the south-west and central areas of the Beatrice wind farm, working in parallel with the CLV Siem Aimery. The Siem Barracuda will undertake the following worksopes; personnel transfer to WTG foundations by Ampelmann Gangway; crane operations to transfer equipment to/from WTG foundations and Offshore Transformer Modules (OTMs); Work class ROV activities at the seabed in the vicinity of WTG foundations and OTMs; and survey activities along the planned inter-array cable routes linking the appropriate WTG foundations/OTMs



Fig 8 – Inter Array Cable Installation work location.

Installation Sequence.

Installation Sequence	Cable Name	Seabed Route-length (m)	Latitude Start	Longitude Start	Latitude Finish	Longitude Finish
17	BE-E3-BE-D3	1300.7	58°12.084 N	2°55.908 W	58°11.999 N	2°56.974 W
18	BE-D3-BE-C4	1419.8	58°12.010 N	2°56.975 W	58°12.318 N	2°57.918 W
19	BE-E5-BE-D5	1354.3	58°13.327 N	2°55.488 W	58°13.124 N	2°56.615 W
20	BE-E6-BE-E5	1235.9	58°13.948 N	2°55.279 W	58°13.340 N	2°55.490 W
21	BE-D4-BE-C4	1253.0	58°12.491 N	2°56.821 W	58°12.329 N	2°57.920 W
22	BE-D5-BE-D4	1233.6	58°13.112 N	2°56.611 W	58°12.503 N	2°56.824 W
23	BE-D7-BE-D6	1257.0	58°14.353 N	2°56.196 W	58°13.744 N	2°56.406 W

# Weekly Notice of Operations (WNoO)

## Beatrice Offshore Windfarm Limited

### Construction Operations



Issue Date: 12th March 2018

LF000005-WNO-013: Weekly Notice of Operations - Rev 45

24	BE-E8-BE-D7	2086.7	58°14.366 N	2°56.198 W	58°15.189 N	2°54.862 W
25	BE-D6-BE-C6	1300.5	58°13.733 N	2°56.405 W	58°13.529 N	2°57.531 W
26	BE-C6-BE-C5	1257.8	58°13.517 N	2°57.529 W	58°12.908 N	2°57.740 W
27	BE-C5-BE-B5	1291.4	58°12.896 N	2°57.736 W	58°12.693 N	2°58.863W
28	BE-J7-BE-K7	1291.5	58°15.439 N	2°50.574 W	58°15.642 N	2°49.445 W
29	BE-H7-BE-J7	1289.3	58°15.224 N	2°51.698 W	58°15.428 N	2°50.572 W
30	BE-C8-BE-C7	1231.2	58°14.760 N	2°57.110 W	58°14.150 N	2°57.322 W
31	BE-C7-BE-B7	1334.5	58°14.139 N	2°57.320 W	58°13.936 N	2°58.445 W
32	BE-D8-BE-C8	1346.3	58°14.975 N	2°55.985 W	58°14.772 N	2°57.113 W
33	BE-B7-BE-B6	1232.9	58°13.923 N	2°58.443 W	58°13.314 N	2°58.654 W
34	BE-K6-BE-L7	2087.5	58°15.033 N	2°49.659 W	58°15.856 N	2°48.319 W
35	BE-E9-BE-D9	1351.8	58°15.811 N	2°54.651 W	58°15.609 N	2°55.780 W
36	BE-J6-BE-K6	1301.9	58°14.819 N	2°50.784 W	58°15.021 N	2°49.656 W
37	OTM1 -BE-H6	1624.4	58°14.995 N	2°52.838 W	58°14.592 N	2°51.907 W
38	OTM1 -BE-F6	2052.5	58°15.004 N	2°52.849 W	58°14.175 N	2°54.158 W
39	OTM1 -BE-G6	1261.5	58°14.995 N	2°52.841 W	58°14.389 N	2°53.033 W
40	OTM2 -BE-E7	2023.3	58°15.403 N	2°53.760 W	58°14.584 N	2°55.075 W
41	OTM2 -BE-E8	1146.7	58°15.412 N	2°53.765 W	58°15.201 N	2°54.865 W
42	BE-H8-BE-J8	1292.3	58°15.846 N	2°51.487 W	58°16.049 N	2°50.359 W
43	OTM1 -BE-H7	1327.2	58°15.000 N	2°52.817 W	58°15.213 N	2°51.696 W
44	OTM1 -BE-H8	2116.7	58°15.009 N	2°52.822 W	58°15.834 N	2°51.484 W
45	OTM2 -BE-D8	2375.6	58°15.414 N	2°53.766 W	58°14.987 N	2°55.989 W
46	OTM1 -BE-J6	2320.0	58°14.997 N	2°52.820 W	58°14.806 N	2°50.781 W
47	OTM2 -BE-E9	1462.4	58°15.407 N	2°53.733 W	58°16.025 N	2°53.526 W
48	BE-L7-BE-L8	1249.0	58°15.868 N	2°48.322 W	58°16.477 N	2°48.108 W
49	BE-D9-BE-C9	1462.4	58°15.596 N	2°55.777 W	58°15.381 N	2°56.901 W
50	BE-C9-BE-D10	2084.4	58°15.393 N	2°56.904 W	58°16.214 N	2°55.570 W
*Trial 1	BE-A6-BE-B5	~100m	58°12.704 N	2°59.391 W	58°12.701 N	2°59.461 W
*Trial 2	BE-H11-BE-J12	~100m	58°18.042 N	2°50.221 W	58°18.122 N	2°50.085 W
*Trial 3	BE-J11-BE-J13	~150m	58°18.166 N	2°49.490 W	58°18.217 N	2°49.458 W



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## Beatrice Offshore Windfarm Limited

### Construction Operations

Issue Date: 12th March 2018

LF000005-WNO-013: Weekly Notice of Operations - Rev 45

#### 2.6.1 – Vessels involved in activity

On behalf of BOWL, Seaway Heavy Lifting will deploy the below vessels to carry out the aforementioned works between 10/03/-2018 – 31/05/2018.

CLV Siem Aimery	
<b>General Description and Dimensions:</b>	Length overall 95.3 m Breadth moulded 21.5 m Draft max. 7.2 m
<b>Call Sign:</b>	LATX7
<b>MMSI:</b>	258182000
<b>On Board Contact:</b>	V-Sat phone: +44 203 1454 129
<b>Offshore Manager / Party Chief:</b>	Captain Direct: +44 203 1454 122 / <a href="mailto:captain@aimery.siemoffshore.com">captain@aimery.siemoffshore.com</a>
<b>E-mail:</b>	<a href="mailto:bridge@aimery.siemoffshore.com">bridge@aimery.siemoffshore.com</a>
<b>Onshore Representative:</b>	Majbritt Pauladottir, +47 95 93 60 32, <a href="mailto:mpa@siemoffshore.com">mpa@siemoffshore.com</a>
	
CSV Siem Barracuda	
<b>General Description and Dimensions:</b>	Length overall 121m Breadth moulded 22m Draft max. 7m
<b>Call Sign:</b>	5BZQ3
<b>MMSI:</b>	212253000
<b>On Board Contact:</b>	V-Sat phone: +47 23 96 06 82
<b>Offshore Manager / Captain:</b>	+47 989 06 307
<b>E-mail:</b>	<a href="mailto:captain@barracuda.siemoffshore.com">captain@barracuda.siemoffshore.com</a>
<b>Onshore Representative:</b>	Audun Oien, + 47 38 600 460, <a href="mailto:Audun.Oien@siemoffshore.com">Audun.Oien@siemoffshore.com</a>

# Weekly Notice of Operations (WNoO)

## Beatrice Offshore Windfarm Limited

### Construction Operations

Issue Date: 12th March 2018

LF000005-WNO-013: Weekly Notice of Operations - Rev 45



## 2.7 Scientific Equipment Removal & Service and Re-installation

Mariners are advised that further to notice UoA/09/2017, and in conjunction with Beatrice Offshore Windfarm Limited (BOWL), the University of Aberdeen intends to **remove** scientific equipment moorings in the Moray Firth at the locations listed in Table 1 below (see chart extracts at the foot of this notice)

Table 1

Name	As laid coordinates (WGS84 datum)		Characteristics
40	57° 48.988' N	3° 36.379' W	Subsurface with acoustic release.
41	57° 51.141' N	3° 33.018' W	Subsurface with acoustic release.
56	58° 18.724' N	2° 37.062' W	Subsurface.
64	57° 42.521' N	3° 30.174' W	Surface marked (dhan, 12' aluminium & RADAR reflector)
66	57° 43.082' N	3° 14.977' W	Surface marked (dhan, 12' aluminium & RADAR reflector)
67	57° 42.069' N	3° 10.026' W	Surface marked (dhan, 12' aluminium & RADAR reflector)
108	58° 18.993' N	2° 59.223' W	Subsurface.
159	58° 09.260' N	2° 52.234' W	Subsurface.

# Weekly Notice of Operations (WNoO)

## Beatrice Offshore Windfarm Limited

### Construction Operations



Issue Date: 12th March 2018

LF000005-WNO-013: Weekly Notice of Operations - Rev 45

165	58° 12.478' N	3° 01.251' W	Subsurface.
183	58° 20.235' N	2° 50.708' W	Subsurface.
185	58° 11.356' N	2° 59.450' W	Subsurface with transponder.

Mariners are advised that the below scientific equipment moorings were **removed** on the 3<sup>rd</sup> of February 2018.

Name	As laid coordinates (WGS84 datum)		Characteristics
146	58° 15.224' N	2° 53.322' W	Subsurface with transponder.
149	58° 16.151' N	2° 51.899' W	Subsurface with transponder.
150	58° 16.755' N	2° 50.970' W	Subsurface with transponder.
164	58° 12.830' N	2° 51.669' W	Subsurface with transponder.
178	58° 17.987' N	2° 49.250' W	Subsurface.
182	58° 15.000' N	2° 55.733' W	Subsurface with transponder.
197	58° 12.063' N	2° 57.544' W	Subsurface with transponder.
201	58° 19.109' N	2° 51.632' W	Subsurface
202	58° 19.136' N	2° 51.652' W	Subsurface
203	58° 19.163' N	2° 51.677' W	Subsurface
204	58° 19.184' N	2° 51.691' W	Subsurface

Mariners are advised that the below scientific equipment moorings were **removed** on the 4<sup>th</sup> of February 2018.

Name	As laid coordinates (WGS84 datum)		Characteristics
163	58° 17.966' N	2° 44.992' W	Subsurface.
175	58° 18.725' N	2° 46.841' W	Subsurface.
179	58° 17.981' N	2° 50.020' W	Subsurface.
180	58° 18.482' N	2° 52.002' W	Subsurface with transponder.
181	58° 19.065' N	2° 51.260' W	Subsurface with transponder.
184	58° 15.422' N	2° 47.713' W	Subsurface.
191	58° 16.536' N	2° 46.446' W	Subsurface.
196	58° 14.097' N	2° 54.656' W	Subsurface with transponder.

Mariners are advised that the below scientific equipment moorings were **removed** on the 18<sup>th</sup> of February 2018.

Name	As laid coordinates (WGS84 datum)		Characteristics
47	58° 00.817' N	3° 08.549' W	Subsurface
48	58° 04.009' N	3° 06.916' W	Subsurface

# Weekly Notice of Operations (WNoO)

## Beatrice Offshore Windfarm Limited Construction Operations



Issue Date: 12th March 2018

LF000005-WNO-013: Weekly Notice of Operations - Rev 45

49	58° 04.450' N	3° 00.999' W	Subsurface This mooring was no longer in position and was not found
159	58° 09.260' N	2° 52.234' W	Subsurface
110	58° 07.668' N	2° 45.374' W	Subsurface
54	58° 13.520' N	2° 41.961' W	Subsurface

Mariners should also note that the following existing moorings (table 2) in the Moray Firth will be **served and reinstalled in their current locations** (see also chart extracts at the foot of this notice)

Table 2

Name	As laid coordinates (WGS84 datum)		Characteristics
1	57° 41.413' N	3° 58.953' W	Subsurface
2	57° 35.133' N	4° 05.891' W	Surface marked (NB50 buoy, red)
3	57° 44.073' N	3° 19.776' W	Surface marked (dhan, 12' aluminium & RADAR reflector)
4	57° 41.357' N	3° 05.547' W	Surface marked (NB50 buoy, red)
17	57° 57.759' N	3° 31.260' W	Subsurface with acoustic release.
42	57° 52.337' N	3° 29.058' W	Subsurface with acoustic release.
45	57° 57.261' N	3° 16.084' W	Subsurface with acoustic release.
89	57° 56.056' N	3° 38.252' W	Subsurface with acoustic release.
160	58° 17.648' N	2° 49.931' W	Subsurface with transponder.
161	58° 12.933' N	2° 55.954' W	Subsurface with transponder.
162	58° 18.176' N	2° 54.124' W	Subsurface with transponder.
164	58° 12.830' N	2° 51.669' W	Subsurface with transponder

The moorings support sound recording equipment and acoustic loggers that record echolocation clicks of dolphins and porpoises (see images at the foot of this notice)  
All works are being carried out by Moray First Marine Ltd, using the Coral Wind.

Coral Wind	
<b>General Description and Dimensions:</b>	Workboat, UK MCA Cat.2, 60nm from safe haven LOA 14m, Beam 5.1m, Draft 1.2m
<b>Call sign:</b>	2EMX8
<b>MMSI:</b>	235086491
<b>On Board Contact:</b>	Bill Ruck, 07775 802963
<b>E-mail:</b>	bill@moraymarine.com

# Weekly Notice of Operations (WNoO)

## Beatrice Offshore Windfarm Limited

### Construction Operations

Issue Date: 12th March 2018

LF000005-WNO-013: Weekly Notice of Operations - Rev 45



A further Notice to Mariners will be issued when the moorings are permanently discontinued.

For information and enquiries please contact: Tim Candido Barton,  
Lighthouse Field Station, University of Aberdeen, George St., Cromarty, Ross-shire,  
IV11 8YL.  
+44 (0)1381 600548.  
t.r.barton@abdn.ac.uk



**Fig. 9 Examples of equipment which the above moorings support**



# Weekly Notice of Operations (WNoO)

## Beatrice Offshore Windfarm Limited Construction Operations

Issue Date: 12th March 2018

LF000005-WNO-013: Weekly Notice of Operations - Rev 45

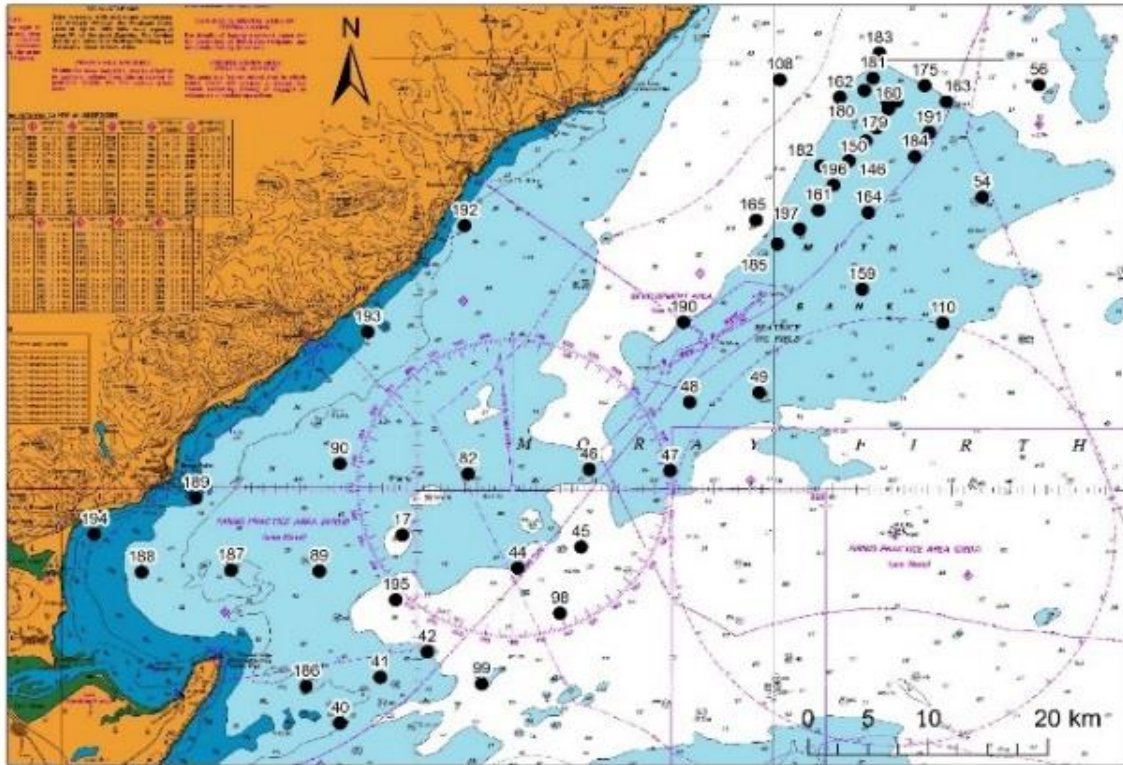


Fig. 10 Mooring locations Moray Firth, excluding sites along the southern shore

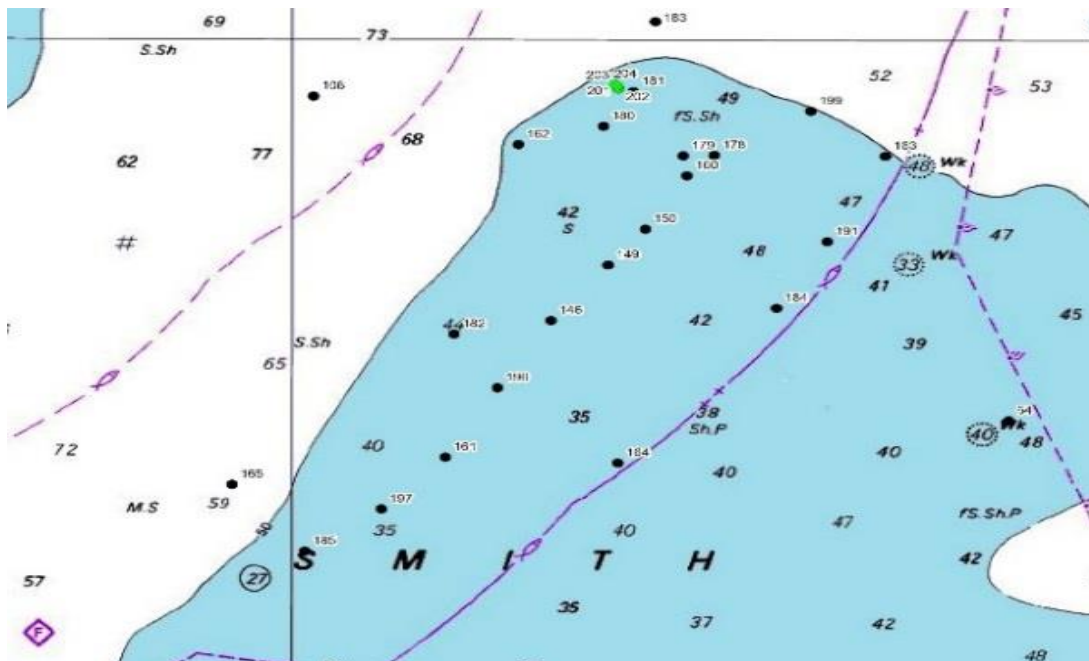


Fig. 11 - Mooring locations; Detail of Smith Bank sites, showing new locations in green

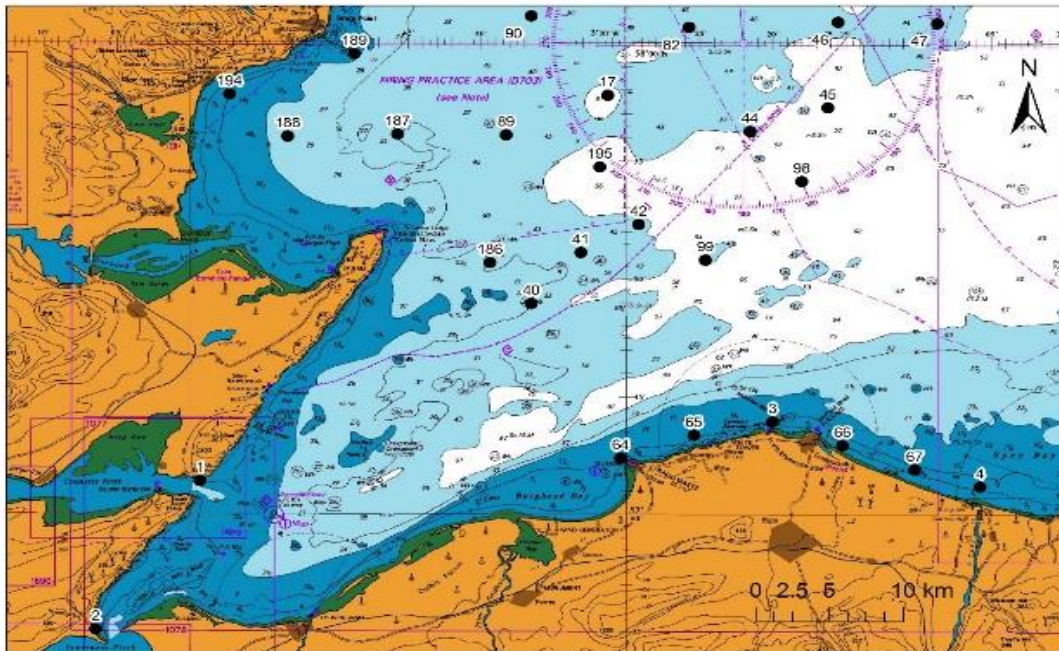
# Weekly Notice of Operations (WNoO)

## Beatrice Offshore Windfarm Limited

### Construction Operations

Issue Date: 12th March 2018

LF000005-WNO-013: Weekly Notice of Operations - Rev 45



**Fig. 12 - Mooring locations; Detail of South side of Moray Firth sites**

### 3. 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.

# Weekly Notice of Operations (WNoO)

## Beatrice Offshore Windfarm Limited

### Construction Operations

---



Issue Date: 12th March 2018

LF000005-WNO-013: Weekly Notice of Operations - Rev 45

#### 4. Guard Vessel Deployment

Guard vessels currently on the main construction site are Artemis IN564 and Seagull. The Guard vessel Shemarah 2 is guarding the exposed export cable on behalf of Nexans AS. All vessels can be contacted on VHF Ch 16.

<b>Project:</b>	Beatrice Offshore Windfarm Guard Vessel Deployment.
<b>Contractor:</b>	SHL & Nexans – SFF Services Ltd.
<b>Contract Purpose:</b>	Guard Vessel for the Windfarm site.
<b>Area:</b>	BOWL construction site: within the array cable routes and foundation locations. (See Fig 1 for details)
<b>Deployment Dates:</b>	1 <sup>st</sup> April 2017 – TBC.
<b>Deployment Vessel (s):</b>	Various on a continuous 21 day rotation.
<b>Equipment:</b>	N/A

On behalf of BOWL, Seaway Heavy Lifting has contracted the Scottish Fishermen's Federation (SFF) to provide guard vessels during the piling and foundation installation campaigns. Nexans Norway AS have contracted the SFF to provide guard vessels during the export cable installation campaign. These vessels will change regularly.

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.

#### 5. 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. [alex@brownmay.com](mailto:alex@brownmay.com)

#### 6. 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.

#### 7. 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.

# Weekly Notice of Operations (WNoO)

## Beatrice Offshore Windfarm Limited

### Construction Operations

---



Issue Date: 12th March 2018

LF000005-WNO-013: Weekly Notice of Operations - Rev 45

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



# Weekly Notice of Operations (WNoO)


## Beatrice Offshore Windfarm Limited

### Construction Operations



Issue Date: 12th March 2018

LF000005-WNO-013: Weekly Notice of Operations - Rev 45

1		Stanislav Yudin	Heavy Lift Vessel	Seaway Heavy Lifting (SHL)	Danny Sprangers (SHL) C/o Subsea 7 East Campus Arnhall Business Park Westhill, Aberdeenshire AB32 6FE +31 653997158 EMAIL: dsprangers@shl.nl	5BYM2 / 210334000 IMO8219463	183.3 x 40 x 8.9m	01.01.2018	OWF & OTW
2		Smit Sentosa	Barge Tow Vessel	Seaway Heavy Lifting (SHL)	Danny Sprangers (SHL) C/o Subsea 7 East Campus Arnhall Business Park Westhill, Aberdeenshire AB32 6FE +31 653997158 EMAIL: dsprangers@shl.nl	ORRX / 205696000 IMO9662356	51.8 x 15.0 x 6.2m	01.01.2018	OWF & OTW
3		Smit Seraya	Barge Tow Vessel	Seaway Heavy Lifting (SHL)	Danny Sprangers (SHL) C/o Subsea 7 East Campus Arnhall Business Park Westhill, Aberdeenshire AB32 6FE +31 653997158 EMAIL: dsprangers@shl.nl	9V9845 / 566804000 IMO9662368	51.8 x 16 x 6m	01.01.2018	OWF
4		Vos Prelude	Supply Vessel	Seaway Heavy Lifting (SHL)	Danny Sprangers (SHL) C/o Subsea 7 East Campus Arnhall Business Park Westhill, Aberdeenshire AB32 6FE +31 653997158 EMAIL: dsprangers@shl.nl	PBZK / 245969000 IMO9444340	73 x 20m	16.11.2017	OWF & OTW
5		Island Crown	Walk to work OTM commissioning	Stålhaugen 12, 6065 Ulsteinvik, Norway +47 70400000	Project Manager Arnt Petter Osnes T +47 70400025 M +47 46829930 arnt@islandoffshore.com	LAC08/9630535 IMO257245000	96 x 20 m	01.02.2018	OWF
6		Siem Barracudda	Walk to Work vessel	Seaway Heavy Lifting (SHL)	Danny Sprangers (SHL) C/o Subsea 7 East Campus Arnhall Business Park Westhill, Aberdeenshire AB32 6FE +31 653997158 EMAIL: dsprangers@shl.nl	5BZQ3/ 212253000	120 x 22 m	10.03.2018	OWF & OTW
7		Siem Aimery	Inter Array Cable Installation	Seaway Heavy Lifting (SHL)	Danny Sprangers (SHL) C/o Subsea 7 East Campus Arnhall Business Park Westhill, Aberdeenshire AB32 6FE +31 653997158 EMAIL: dsprangers@shl.nl	LATX7/ 258182000	95 x 21 m	10.03.2018	OWF & OTW
8		Skagerrak	Export Cable laying Vessel	Nexans Norway AS Innsporten 9, 0663 Oslo, Norway +47 22 88 61 00	Øyvind Haug BEATRICE Installation Engineering Manager Mob: +47 919 27 674 Office: +47 22 88 65 09	LCEK / 25723000	99.75m x 35.41m	09.11.2017	OWF / OTW
9		Rix Lynx	Crew Transfer Vessel / CTV	Seaway Heavy Lifting (SHL)	Danny Sprangers (SHL) C/o Subsea 7 East Campus Arnhall Business Park Westhill, Aberdeenshire AB32 6FE +31 653997158 EMAIL: dsprangers@shl.nl	2JGQ6 / 235115745 IMO9802358	26 x 7.0 x 2.0m	27.03.2017	OWF
10		Centaurus	Barge Tow Vessel	Seaway Heavy Lifting (SHL)	Danny Sprangers (SHL) C/O Subsea 7 East Campus Arnhall Business Park Westhill, Aberdeenshire, AB32 6FE +31 653997158 Email - dsprangers@shl.nl	V2ED3 / 305820000 IMO9433755	48.81 x 14.06m	08.08.2017	OWF



# Weekly Notice of Operations (WNoO)

## Beatrice Offshore Windfarm Limited

### Construction Operations



Issue Date: 12th March 2018

LF000005-WNO-013: Weekly Notice of Operations - Rev 45

11		Britoil 120	Barge Tow Vessel	Seaway Heavy Lifting (SHL)	Danny Sprangers (SHL) C/O Subsea 7 East Campus Arnhall Business Park Westhill, Aberdeenshire, AB32 6FE +31 653997158 Email - dsprangers@shl.nl	9V7116/ 564104000	59 x 16m	09.03.2018	OWF
12		Kamarina	Barge Tow Vessel	Seaway Heavy Lifting (SHL)	Danny Sprangers (SHL) C/O Subsea 7 East Campus Arnhall Business Park Westhill, Aberdeenshire, AB32 6FE +31 653997158 Email - dsprangers@shl.nl	IITW2 / 247278400 IMO9499644	50 x 15m	08.08.2017	OWF
13		Union Sovereign	Anchor Handling Tug	Seaway Heavy Lifting (SHL)	Danny Sprangers (SHL) C/O Subsea 7 East Campus Arnhall Business Park Westhill, Aberdeenshire, AB32 6FE +31 653997158 Email - dsprangers@shl.nl	ORQW / 205644000 IMO9262742	67.4 x 15.5m	21.08.2017	OWF
14		Shemrah II	Guard Vessel	Scottish Fishermens Federation (SFF) for Nexans AS	Øyvind Haug BEATRICE Installation Engineering Manager Mob: +47 916 27 674 Office: +47 22 88 65 09	MVRR7 / 232007650	27 x 8 m	04.03.2018	OFTW
15		Seagull BF74	Guard Vessel	Scottish Fishermens Federation (SFF) for Seaway Heavy Lifting (SHL)	Danny Sprangers (SHL) C/O Subsea 7 East Campus Arnhall Business Park Westhill, Aberdeenshire, AB32 6FE +31 653997158 Email - dsprangers@shl.nl	MVBO2/ 233714000	30 x 8m	05.03.2018	OWF
16		Artemis IN564	Guard Vessel	Scottish Fishermens Federation (SFF) for Seaway Heavy Lifting (SHL)	Danny Sprangers (SHL) C/O Subsea 7 East Campus Arnhall Business Park Westhill, Aberdeenshire, AB32 6FE +31 653997158 Email - dsprangers@shl.nl	MVIX5 233975000	28 x 8m	27.02.2018	OWF
17		Coral Wind / UK	Workboat, UK MCA Cat.2 C-pod deployment	Aberdeen University	Bill Ruck Moray First Marine Ltd Tel 07775 802963 bill@moraymarine.com	2EMX8 / 235086491	14 x 5.1 x 1.2m	08.01.2018	OWF
18		Seacat Intrepid	Crew Transfer Vessel / CTV	Seacat Services Ltd	Lea Hurst Marine Manager, Seacat Services Ltd 2 Mariners Way, Cowes, Isle of Wight +44 (0)1983 475315 lea.hurst@seacatservices.co.uk	2HWU6 / 235107284	27 x 10 x 1.5m	25.09.2017	OWF & OFTW

# **Weekly Notice of Operations (WNoO)**

## **Beatrice Offshore Windfarm Limited**

### **Construction Operations**

---



**Issue Date: 12th March 2018**

**LF000005-WNO-013: Weekly Notice of Operations - Rev 45**