Beatrice Offshore Windfarm Limited Construction Operations



Issue Date: 26th March 2018 LF000005-WNO-013: Weekly Notice of Operations - Rev 47

Notice of Operations at Beatrice Offshore Wind Farm

Work Planned for the Period 26.03.2018 to 01.04.2018

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.

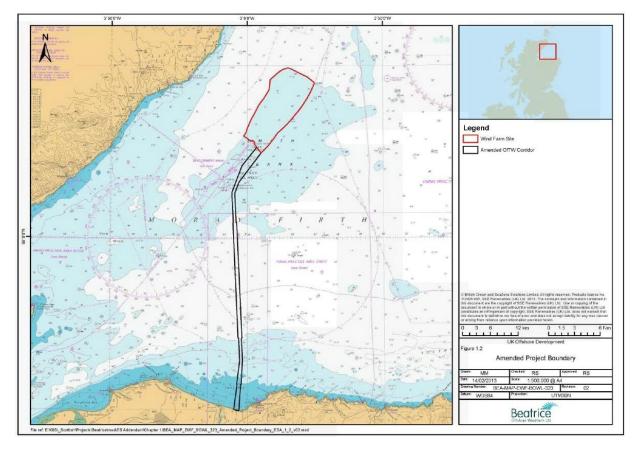


Fig. 1 Beatrice Offshore Wind Farm Location



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### 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 Jacket Installation Campaign

Project:	Jacket Installation Campaign (See Notice to Mariners) NTM-032 Rev01
Contractor:	SHL
Contract Purpose:	To install WTG & OTM Jackets at completed piled locations within the construction site.
Area:	BOWL Construction Site: Jacket Locations (See Fig. 2 Table1)
Deployment Dates:	08 August 2017 – September 2018
Deployment Vessels:	HLV Stanislav Yudin, AHT Union Sovereign, AHT Smit Sentosa, Britoil 120, Pegasus, Smit Seraya, Bremen Fighter, Kamarina
Equipment:	HLV equipment, Pile cleaning equipment, Grouting equipment.

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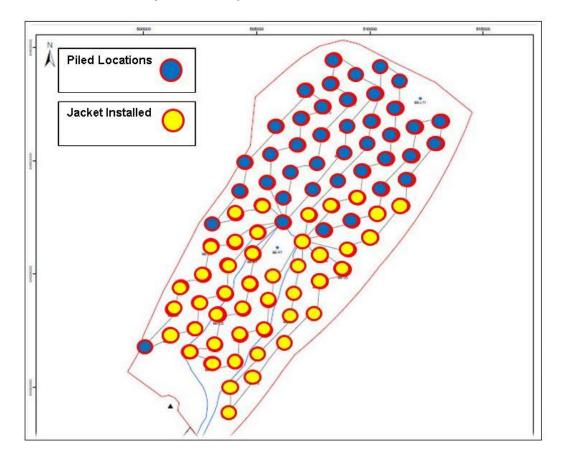


Fig. 2 Pile installation completed at 86 Locations

Foundation installation completed at 45 Locations

Table 1 -	<ul> <li>WTG and OTM Location Coord</li> </ul>	linates
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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	23.03.2018
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
BE-D7	58° 14.359' N	002° 56.209' W	31.05.2017	18.01.2018



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Location ID	Latitude WGS84	Longitude WGS84	Piling Complete	Jacket installed
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	40.00.001
BE-H8	58° 15.840' N	002° 51.499' W	06.05.2017	13.09.2017
BE-H9	58° 16.461' N	002° 51.289' W	15.11.2017	



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Location ID	Latitude	Longitude	Piling	Jacket
Location ib	WGS84	WGS84	Complete	installed
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	25.03.2018
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	



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### 2.2 Installation of Export Cable 1.

### Activity Description

On behalf of BOWL, CLV Nexans Skagerrak and Island Crown have now completed the pullin 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.

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

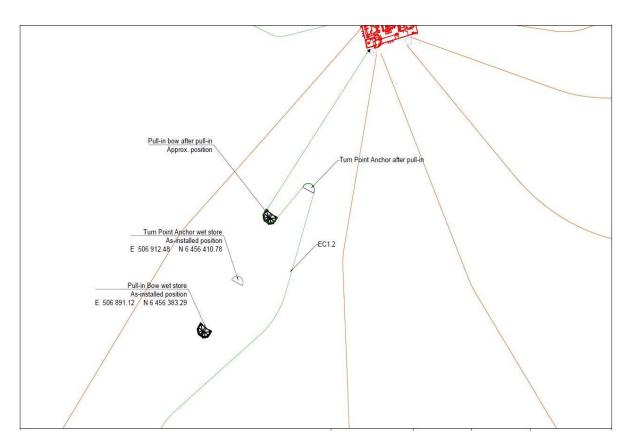


Fig. 3 Showing seabed locations of Turn Point Anchor & Pull-In Bow



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- 2.3 Export Cable 2.1 Cable Pull-In and Cable Lay.
- 1. Area of planned activity

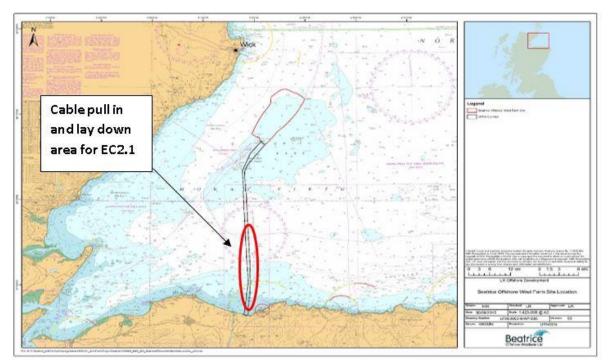


Fig 4 – EC2.1 pull-in and cable lay area.

Approximate location of cable pull in end EC2.1 near shore	Latitude WGS84	Longitude WGS84
KP 0.450 on EC2	57° 40.143'N	003°02.655'W
Approximate location of cable laydown end EC2.1	Latitude WGS84	Longitude WGS84
KP 33 on EC2	57° 57.598'N	003°02.661'W

### 2. Activity Description

On behalf of BOWL, Nexans Norway AS using the cable laying vessel Skagerrak will pull-in Export Cable 2.1 and lay the cable to KP33. The work will commence with preparatory work consisting of:

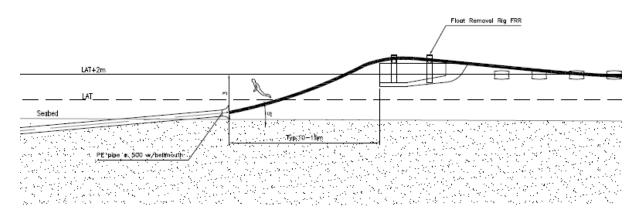
• Preparation of the cable pull in pipe entrance by a work boat (deployed from Skagerrak) at approximately 450m North of the landfall. This includes recovering the end of a wire from a land based winch and marking with a buoy.

• The vessel will commence the cable lay at the nearshore end, where the cable will be deployed onto floats while the vessel is positioned around 1-1.5km North of landfall. As the cable is fed out, it will be tendered by small work boats (deployed from the Skagerrak) and lead towards the cable pull-in pipe.



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The end of the cable will be connected to the end of the land based winch via the pull-in pipe and the cable will then be pulled through the pipe to the onshore jointing location (approximately 560m from the pipe entrance). At this point there will be approximately 1-1.5km of cable floating on the sea surface. This will represent a particular hazard to any vessels and to the cable at this stage of the operation.



#### Fig 5. Detail of PE pipe and float rig at shore pull in location KP 0.450

Once the pull-in is complete, the cable floats will be removed working from the pull-in pipe entrance towards the Skagerrak thereby laying the cable on the seabed along the pre-prepared cable route. The cable will remain exposed on the seabed.

#### 3. Vessels Involved in activity.

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



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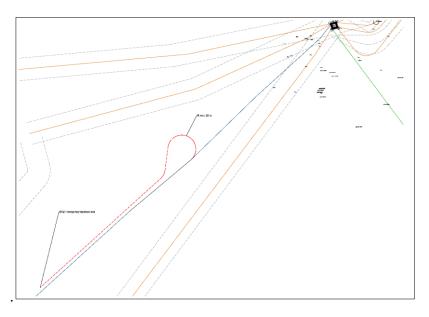
### 2.4 Installation of Export Cable EC2.2

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.6 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

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

Nexans Skagerrak and Island Crown have completed the installation, pull-in and wet store of the EC3 interconnector cable. The cable has been 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.



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The cable will be recovered and re-routed at a later date once OTM 2 has been installed. See Fig 5 below.

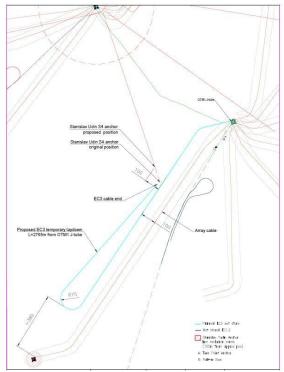


Fig. 7 EC3 wet store location

## 2.6 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. Further works to prepare the direct pipe with a messenger wire for the pull-in of EC2 will take place at the outfall location from Friday 23<sup>rd</sup> March.

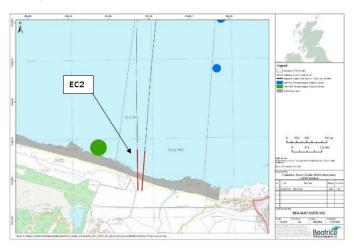


Fig. 8 Location of Near Shore Diving Works



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

2.6.1 Vessels involved in the operation.

DSV Aramis		
General Description and	Aluminium Workboat L:15.7m /	
Dimensions:		
Call Sign:	LDEH	
MMSI:	257167000	
Onshore Representative:	Øyvind Haug BEATRICE Installation Engineering Manager Mob: +47 916 27 674 Office: +47 22 88 65 09	
	AGDER DYKK AS	

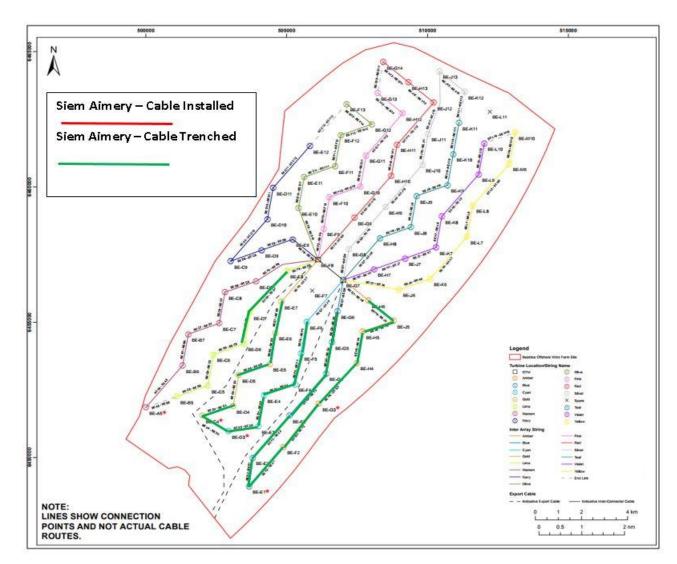
DSV	Athos					
General Description and	Polyethylene Workboat L:5.2m /					
Dimensions:	B:2.15m					
Call Sign: N/A carried handheld VHF radio						
MMSI:	N/A					
Onshore Representative:	Øyvind Haug BEATRICE Installation Engineering Manager Mob: +47 916 27 674 Office: +47 22 88 65 09					
	PIOTEPNE AGDER DYKK AS 5					



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



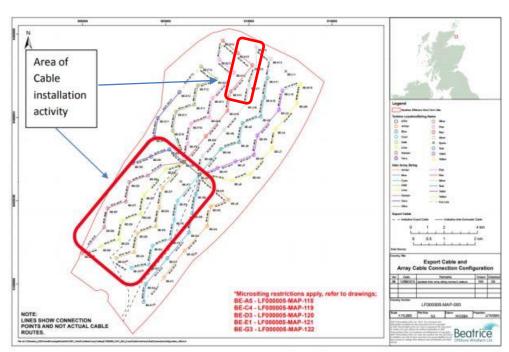
#### Fig. 9 Cable installation Progress

The CLV Siem Aimery will install up to 34 Inter Array Cables during the second cable installation campaign, which commenced 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 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



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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 workscopes; 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. 10 Inter Array Cable Installation work location

Installation Sequence.

Installation Sequence	Cable Name	Seabed Route- length m	Latitude Start	Longitude Start	Latitude Finish	Longitude Finish	Cable laid	Cable buried
17	BE-E3-BE-D3	1300.7	58°12.084N	2°55.908W	58°11.99N	2°56.974W	12.03.2018	13.03.2018
18	BE-D3-BE-C4	1419.8	58°12.010N	2°56.975W	58°12.31N	2°57.918W	13.03.2018	13.03.2018
19	BE-E5-BE-D5	1354.3	58°13.327N	2°55.488W	58°13.12N	2°56.615W	20.03.2018	23.03.2018
20	BE-E6-BE-E5	1235.9	58°13.948N	2°55.279W	58°13.34N	2°55.490W	21.03.2018	23.03.2018
21	BE-D4-BE-C4	1253.0	58°12.491N	2°56.821W	58°12.32N	2°57.920W	19.03.2018	20.03.2018
22	BE-D5-BE-D4	1233.6	58°13.112N	2°56.611W	58°12.50N	2°56.824W		
23	BE-D7-BE-D6	1257.0	58°14.353N	2°56.196W	58°13.744N	°56.406W	21.03.2018	24.03.2018
24	BE-E8-BE-D7	2086.7	58°14.366N	2°56.198W	58°15.189N	2°54.862W	22.03.2018	24.03.2018
25	BE-D6-BE-C6	1300.5	58°13.733N	2°56.405W	58°13.529N	2°57.531W		
26	BE-C6-BE-C5	1257.8	58°13.517N	2°57.529W	58°12.908N	2°57.740W		
27	BE-C5-BE-B5	1291.4	58°12.896N	2°57.736W	58°12.693N	2°58.863W		



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

### 2.7.1 – Vessels involved in activity

On behalf of BOWL, Seaway Heavy Lifting will deploy the vessels as detailed below to carry out the aforementioned works between 10.03.2018 – 31.05.2018

	CLV Siem Aimery					
General Description and Dimensions:	Length overall 95.3 m Breadth moulded 21.5 m Draft max. 7.2 m					
Call Sign:	LATX7					
MMSI:	258182000					
Onshore Representative:	Majbritt Pauladottir, +47 95 93 60 32, mpa@siemoffshore.com					

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	CSV Siem Barracuda						
General Description and	Length overall 121 m						
Dimensions:	Breadth moulded 22 m						
	Draft max. 7 m						
Call Sign: 5BZQ3							
MMSI:	212253000						
Onshore Representative:	Auden Oien + 47 38 600 460						
	Auden.oien@siemoffshore.com						

### 2.8 Offshore Transmission Module (OTM1) commissioning works

Siemens Transmission and Distribution Ltd. (STDL) are carrying out commissioning works on OTM1 in preparation for the energisation of the system.

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Fig 11 – OTM 1.

Nexans Norway AS are carrying out routing, jointing and termination works on EC1 and EC3 which have been pulled into OTM1.

The walk to work vessel Island Crown is on site as the support and accommodation vessel for all works on OTM 1.

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



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

Mariners should take note that the following existing moorings (table 1) in the Moray Firth have been serviced and reinstalled in their current locations (see also chart extract at the foot of this notice.

#### Table 1

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 as the foot of this notice) All works are being carried out by Moray First Marine Ltd, using the Coral Wind.

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



Acoustic logger (600 x 95mm)



Sound Recorder (900 x 170mm)



Sound recorder (200 x 60mm)



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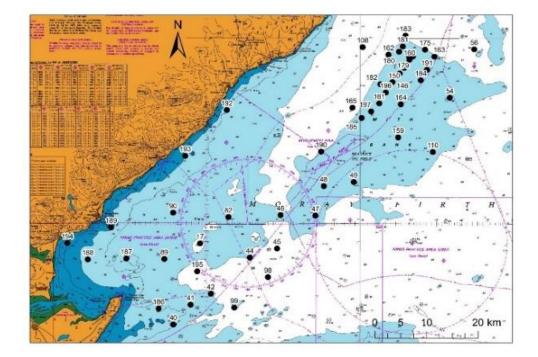


Fig. 12 Examples of equipment which the above moorings support

### 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.



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### 4. Guard Vessel Deployment

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

- · ·	
Project:	Beatrice Offshore Windfarm Guard Vessel Deployment.
Contractor:	SHL & Nexans – 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:	1 <sup>st</sup> April 2017 – TBC.
Deployment Vessel	Various on a continuous 21 day rotation.
(s):	
Equipment:	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. <u>alex@brownmay.com</u>

#### 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.

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

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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 & OFTW
2		Smit Sentosa	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	ORRX / 205696000 IMO9662356	51.8 x 15.0 x 6.2m	01.01. <mark>2018</mark>	OWF & OFTW
3		Smit Seraya	Barge Tow Vessel	Seaway Heavy Lifting (SHL)	Danny Sprangers (SHL) C/o Subsea 7 East Campus Arnhail Business Park Westhill, Aberdeenshire AB32 &FE +31 653997158 EMAIL:dsprangers@shl.nl	9V9845 / 566804000 IMO9662368	51.8 x 16 x 6m	01.01.2018	OWF
4		Island Crown	Walk to work OTM commisioning	Stålhaugen 12, 6065 Ulsteinvik, Norway +47 70400000	Project Manager Arnt Petter Osnes T +47 70400025 M +47 46829930 arnt@islandoffshore.com	LACO8/9630535 IMO257245000	96 x 20 m	01.02.2017	OWF
5	<u>R</u>	Siem Barracuda	Walk to Work Vessel	Seaway Heavy Lifting (SHL)	Danny Sprangers (SHL) C/o Subsea 7 East Campus Arnhail Business Park Westhill, Aberdeenshire AB32 6FE +31 653997158 EMAIL:dsprangers@shl.nl	5BZQ3 / 212253 <mark>00</mark> 0	120 X 22 m	10.03. <mark>2</mark> 018	OWF & OFTW
6		Siem Aimery	Inter Array Cable Installation Vessel	Seaway Heavy Lifting (SHL)	Danny Sprangers (SHL) C/o Subsea 7 East Campus Arnhall Business Park Westhill, Aberdeenshire AB32 &FE +31 653997158 EMAIL:dsprangers@shl.nl	LATX7 / 258182000	95 X 21 m	10.03. <mark>2018</mark>	OWF & OFTW
7		Nexans Skagerrak	Export Cable Laying Vessel	Nexans NorwayAS Innspurten 9, 0663 Oslo, Norway +47 22 88 61 00	Oyvind Haug BOWL Installation Engineering Manager Mob +47 916 27 674 Office +47 22886509	LCEK / 25723000	99.75 X 35.5 m	09.11.2017	OWF & OFTW
8		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 EIMALL:dsprangers@shl.nl	2JGQ6 / 235115745 IMO9802358	26 x 7.0 x 2.0m	27.03.2017	OWF
9		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	59m x 16m	09.03.2018	OWF

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10		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
11		Union Sovereign	Anchor Handling Tug	Seaway Heavy Lifting (SHL)	Danny Sprangers (SHL) C/O Subsea 7 East Campus Armhall Business Park Westhill, Aberdeenshire, AB32 6FE +31 653997158 Email - dsprangers@shl.nl	ORQW / 205644000 IMO9262742	67.4 x 15.5m	21.08.2017	OWF / OFTW
12		Shemarah II	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	MVRR7 / 232007650	27 x 8 m	04.03.2018	OfTW
13		Seaguil 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 8 m	05.03.2018	OWF
14		Moremma PD135	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	MKHC6 / 235007170	20 x 7m	18.03.2018	OWF
15		DSV Aramis	Dive Support Vessel	Nexans NorwayAS Innspurten 9, 0663 Oslo, Norway +47 22 88 61 00	Oyvind Haug BOWL Installation Engineering Manager Mob +47 916 27 674 Office +47 22886509	N/A	15 x 5m	23.03.2018	oftw
16		DSV Athos	Dive Support Vessel	Nexans NorwayAS Innspurten 9, 0663 Oslo, Norway +47 22 88 61 00	Oyvind Haug BOWL Installation Engineering Manager Mob +47 916 27 674 Office +47 22886509	N/A	5 x 2m	23.03.2018	опт
17	Res So	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