



Notice of operations at London Array Offshore Wind Farm

Date of Notice:	19th February 2012	Notice no:	62
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The offshore construction work for London Array is now well underway. We are issuing weekly notices 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 to the operations, we kindly ask you to put them forward well in advance.

London Array Offshore Wind Farm

For general information on the London Array project, see: www.londonarray.com

If you have any questions on the offshore activities, or request further information, please direct them to: londonarraytraffic@dongenergy.dk

1. Work planned for week 08 (20/02/12 to 26/02/12)

- Foundation installation vessel **MPI Adventure** will install foundations L16, K16 & D13 then return to Harwich to load a further three foundations. Whilst construction is taking place at these positions a 500m safety zone is established, and vessels are to keep clear.
- The Wind Turbine installation jack up **Sea Worker** and assist tugs **Sea Alfa** and **Sea Echo** will install C14 & E19 during week 8. Whilst construction is taking place at these positions a 500m safety zone is established, and vessels are to keep clear.
- The Wind Turbine installation vessel **MPI Discovery** will install D10, D09 & B11 during week 8. Whilst construction is taking place, a 500m safety zone is established, and vessels are to keep clear.
- The Array cable installation vessel **Stemat 82** and assist tugs **Lydia D** and **Claudia B** shall continue to install array cables during week 8. Whilst construction is taking place, a 500m safety zone is established, and vessels are to keep clear.
- The Array cable installation vessel **Stemat Olso** and assist tugs **Sea Charlie** and **Maggie M** will commence to install array cables during week 8. Whilst construction is taking place, a 500m safety zone is established, and vessels are to keep clear.
- Export cable installation vessel **Stemat Spirit**, located in the Swale, has commenced second cable installation. The cable installation is expected to take up to 4 weeks. Vessels assisting the Stemat Spirit will be the tug **Coastal Vanguard** and the multicats **Yvonne W** and **Coastal Discovery**.
- Other vessel's involved in the Swale cable pull in and burial operations will be the multicat **Wiltango**, and the barges **Wilcarry 300**, & **Wilcarry 342**.
- To guide non project vessels past the anchor pattern of the Stemat Spirit, there will be a total of four RIB's, and the 9m Cheetah catamaran **Wet Wheels**. All vessels involved with this operation will be contactable on VHF channel 16.
- The two Cable crossings between the London Array export cable and the Kentish Flats export cable and the Britnet cable, are guarded by the guard vessel "**Our Pride**".
- The vessel **Coastal Worker** assisted by **Nova K** will be carrying on cable burial and diving operation close to the offshore Substation 1. During these operations a 500m safety zone is established, and vessels are to keep clear.
- The vessel **Nova K**, will be undertaking PLGR work on the array cable routes.

- Siemens to perform mechanical/electrical completion of the turbines installed
- The vessel '**Waterfall**' will be undertaking Marine Mammal Observation duties, prior to and during piling operations. This vessel will also undertake site survey duties.
- Construction site guard vessel duties will be covered by the **Mary Ann 1**.
- Crew boats **Marian Array, Conwy Bay, Svend T, Towyn Bay, Smeaton Array, MPI Rucio, C Wind Alliance, C Wind Athenia, MCS Maestro, Transporter, Distributor, Voyager, Bayard 1, Cathrin, Gardian 7, Sea Rex, Abersoch Bay, Sea Weasel and Windcat 14** will take offshore technicians to the installed foundations and construction vessels, and perform personnel transfer duties.
- The vessel '**Valkyrie**' to undertake site survey work.

2. Vessel on site

For details of vessels on site and vessels expected, see attached vessel data matrix.

3. Installations

Structures installed: Sub-Station 1 & 2 foundation and topsides

Name	Position (WGS 84)		Name	Position (WGS 84)	
SS1	51° 37.815N	001° 26.209E	SS2	51° 36.148N	001° 32.085E

Sub-Station; SS1 and SS2, are illuminated and equipped with lights: Mo(U).

Foundation Monopoles and transition pieces installed at the locations as listed below.

Those shaded in **RED** have had Wind Turbines installed. (Total - 5)

No	Name	Position (WGS 84)		No.	Name	Position (WGS 84)	
1	C18	51° 37.369N	001°25.191E	2	B17	51° 36.738N	001°25.090E
3	F19	51° 38.820N	001° 26.475E	4	C19	51° 37.599N	001° 24.765E
5	H19	51° 39.626N	001° 27.631E	6	I17	51° 39.582N	001° 29.038E
7	L19	51° 41.265N	001° 29.899E	8	L20	51° 41.481N	001° 29.523E
9	F20	51° 39.001N	001° 26.048E	10	M20	51° 41.902N	001° 30.042E
11	D20	51° 38.024N	001° 24.612E	12	I18	51° 39.812N	001° 28.612E
13	K19	51° 40.858N	001° 29.328E	14	H18	51° 39.405N	001° 28.041E
15	M19	51° 41.672N	001° 30.468E	16	H17	51° 39.192N	001° 28.435E
17	I19	51° 40.042N	001° 28.186E	18	G14	51° 38.077N	001° 29.176E
19	I20	51° 40.276N	001° 27.753E	20	G15	51° 38.307N	001° 28.749E
21	G16	51° 38.537N	001° 28.323E	22	H16	51° 38.945N	001° 28.894E
23	F17	51° 38.360N	001° 27.327E	24	C17	51° 37.138N	001° 25.616E
25	G18	51° 39.006N	001° 27.482E	26	F18	51° 38.590N	001° 26.901E
27	E17	51° 37.953N	001° 26.757E	28	G19	51° 39.228N	001° 27.045E
29	E16	51° 37.723N	001° 27.183E	30	F16	51° 38.130N	001° 27.753E
31	B16	51° 36.501N	001° 25.473E	32	H15	51° 38.714N	001° 29.319E
33	K17	51° 40.402N	001° 30.164E	34	L17	51° 40.805N	001° 30.750E
35	G20	51° 39.458N	001° 26.619E	36	H20	51° 39.865N	001° 27.190E
37	E15	51° 37.493N	001° 27.609E	38	D14	51° 36.855N	001° 27.465E
39	C14	51° 36.448N	001° 26.895E	40	A13	51° 35.400N	001° 26.175E
41	D19	51° 38.006N	001° 25.335E	42	M18	51° 41.428N	001° 30.864E
43	D07	51° 35.247N	001° 30.433E	44	B13	51° 35.811N	001° 26.751E
45	E14	51° 37.263N	001° 28.035E	46	E18	51° 38.183N	001° 26.331E
47	L18	51° 41.035N	001° 30.324E	48	D15	51° 37.086N	001° 27.039E
49	F03	51° 35.139N	001° 33.290E	50	B15	51° 36.271N	001° 25.899E
51	H14	51° 38.484N	001° 29.746E	52	K20	51° 41.100N	001° 28.879E
53	F06	51° 35.834N	001° 32.004E	54	D17	51° 37.535N	001° 26.206E
55	G03	51° 35.546N	001° 33.860E	56	C15	51° 36.678N	001° 26.469E
57	I06	51° 37.051N	001° 33.723E	58	A14	51° 35.634N	001° 25.755E

59	G17	51° 38.767N	001° 27.897E	60	I15	51° 39.122N	001° 29.890E
61	H06	51° 36.643N	001° 33.123E	62	D16	51° 37.316N	001° 26.613E
63	G06	51° 36.244N	001° 32.601E	64	J15	51° 39.530N	001° 30.463E
65	F02	51° 34.909N	001° 33.716E	66	J06	51° 37.452N	001° 34.282E
67	J19	51° 38.149N	001° 33.019E	68	E06	51° 35.422N	001° 31.442E
69	E19	51° 38.413N	001° 25.904E	70	E07	51° 35.652N	001° 31.016E
71	J18	51° 40.220N	001° 29.185E	72	I05	51° 36.821N	001° 34.149E
73	E02	51° 34.501N	001° 33.146E	74	J20	51° 40.681N	001° 28.332E
75	K18	51° 40.628N	001° 29.754E	76	J17	51° 39.990N	001° 29.611E
77	F15	51° 37.900N	001° 28.179E	78	M17	51° 41.212N	001° 31.320E
79	H13	51° 38.254N	001° 30.172E	80	J16	51° 39.760N	001° 30.037E
81	B10	51° 35.121N	001° 28.029E	82	I16	51° 39.352N	001° 29.464E
83	F14	51° 37.670N	001° 28.605E	84	G13	51° 37.847N	001° 29.601E
85	A15	51° 35.875N	001° 25.410E	86	A10	51° 34.713N	001° 27.459E
87	A12	51° 35.174N	001° 26.607E	88	A11	51° 34.944N	001° 27.033E
89	D09	51° 35.705N	001° 29.595E	90	B11	51° 35.351N	001° 27.603E
91	D10	51° 35.935N	001° 29.169E	92	C10	51° 35.528N	001° 28.599E
93	B12	51° 35.581N	001° 27.177E	94	C12	51° 35.988N	001° 27.747E
95	C09	51° 35.298N	001° 29.025E	96	D11	51° 36.170N	001° 28.733E
97	C11	51° 35.758N	001° 28.173E	98	M15	51° 40.752N	001° 32.173E
99	M16	51° 40.982N	001° 31.747E	100	D12	51° 36.395N	001° 28.317E
101	C13	51° 36.220N	001° 27.324E	102	K15	51° 39.954N	001° 30.995E
103	D08	51° 35.475N	001° 30.021E				
All Foundations are installed with Lights : FI(Y) 2.5sec 2Nm							

Description of the foundations: Yellow cylindrical steel towers with a concrete platform on top. The unique ID number is displayed on signs spaced 120°. Each foundation is equipped with a solar powered amber light FI(Y) 2.5 s 2nm.

Array cables Installed

1	B17-C17 (1)	2	SS1-D19 (25)	3	SS1-F18 (36)	4	K17-L17 (44)
5	SS1-E16 (47)	6	SS1-D17 (30)	7	M18-L18 (48)	8	SS1-E19 (58)
9	D17-C17 (31)	10	B10-B11(100)	11	D09-D10 (93)	12	J17-K17 (43)
13	L17-M17 (45)	14	SS1-E18 (68)	15	F20-G20 (20)		

Some submarine cables are still unburied and exposed on the surface of the seabed.

Wave rider Buoys

Identity	Lat (WGS 84)	Long (WGS 84)	Light
Knock Deep (North)	51° 36.96' N	001° 30.31' E	FI (5) Y 20s 2nm
Knock Deep (South)	51° 35.00' N	001° 29.93' E	FI (5) Y 20s 2nm

The wave rider buoys are protected by 2 guard buoys (Lt. FI (5) Y 20sec 2nm) approximately 50 metres to the North and South of each wave rider buoy

Description of wave rider buoys: Yellow spherical buoys, top transparent dome with solar panels and flashing light

Description of guard buoys: Yellow spar buoys with flashing light and radar reflector.

Knock Deep South Buoy off station and position marked with unlit orange buoy.

Relevant plans to current activity

	Name
A	Contractors method statements and risk assessments
B	Marine Coordination Procedure
C	Notices to Mariners issued
D	Marine Licence
E	London Array Emergency Response Cooperation Plan (ERCOP)

4. Other notes

Reduced clearances at the Kentish Flats and BritNed cable crossings.

Kentish Flats cable crossings (51° 25'.217N, 001° 06'.033E). At these three crossings the typical sea bed level was -4m LAT. Due to the newly installed rock berm the depth in some areas is now -1.5m LAT.

BritNed cable crossing (51° 28'.583N, 001° 17'.417E). At this crossing the seabed level varies from -6.5m LAT to -9m LAT. Due to the newly installed rock berm the depth in some areas is now -4m LAT.

The start and end coordinates of the rock berm are given in the following table:-

Crossing		Latitude	Longitude	Easting	Northing
Kentish Flats	From	51° 25'.203N	001° 05'.895E	367769.05	5698254.77
	To	51° 25'.252N	001° 06'.169E	368088.74	5698335.72
BritNed	From	51° 28'.549N	001° 17'.372E	381212.69	5704127.66
	To	51° 28'.599N	001° 17'.457E	381313.32	5704217.47
See Overview at end of this document				WGS84 - UTM Zone: 31N	

Safe distance

Whilst installation is ongoing at the individual positions a 500m radius safety zone is established around the installation upon which the construction vessel is installing or maintaining. The only vessels permitted to enter and remain in the safety zone are vessels involved in activities related to construction and major maintenance works. Mariners should be aware that anchor lines can extend from the construction vessels for distances greater than 500m.

During the construction period of the wind farm, a 50m radius safety zone is established around each wind turbine, offshore sub-station platform and associated foundation structures, installed, complete or incomplete (until commissioned as part of the London Array Offshore Wind Farm).

All vessels are reminded that the J-tube/Bell Mouth configuration extend several meters out from the TP perimeter. All vessels should proceed with caution when approaching the foundations.

A number of wet store locations are established at the construction site. The areas are used for storing anchors and connected pennant buoys when not in use. Positions of wet stores or other obstacles can be obtained from Marine Coordinators office or the onsite guard vessel

The Guard vessels (**Mary Ann 1** and **Our Pride**) are in place at the offshore construction site and the export cable crossings, - the vessels can be contacted at all times on VHF Ch16 & 69.

The address of the Construction Management office is: London Array Ltd. Construction Management, Port of Ramsgate, Military Road, Ramsgate, CT11 9LG, UK

The Marine Coordinators office is manned on a 24hr basis and can be contacted on +44 07920854358 or londonarraytraffic@dongenergy.dk

A Kingfisher flyer has been issued, showing the details of the planned offshore installations. The flyer can be downloaded from www.londonarray.com, and will be handed out through the Fishery Liaison Officers and others.

Latest Notice to Mariners published

UKHO Notice to Mariners No 0849/2011 Precautionary note on the construction of London Array Wind Farm and 2448/2011 - Temporary withdrawal of Foulgers Gat buoys----
3191(P) London Array Offshore Windfarm to the Swale. Cleve Marshes. Submarine power cables.
0622/2012 Obstructions, reduced depths (Rock berms)

Port of London Notices to Mariners No. L2. Issued 10/01/11, and L18. Issued 15/09/11, London Array export cable laying operations. **No. L3 2012 Issued 13/01/2012: Installation of second export cable.**

Medway Ports Notice to Mariners - No.26-2011 Issued 23/09/11: Swale Channel - London Array Export cable pull in arrangements. No.30 Issued 18/10/2011: East Swale - London Array Export cable pull in arrangements. No 31 Issued 28/10/2011: East Swale - London Array Export cable pull in arrangements. Notice No 5 issued 13/01/12 London Array East Swale cable pull in. **Notice 6 issued 31/01/12 Swale Location of anchors for Stemat Spirit.**

Trinity House Notice to Mariners No 24/2011 C9 - Foulgers Gat removal of buoyage and navigation of Foulgers Gat not recommended. **No 7 2012 Swale temporary relocation of buoys**

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Report made by:

Marine Coordinator Anker Lauritsen

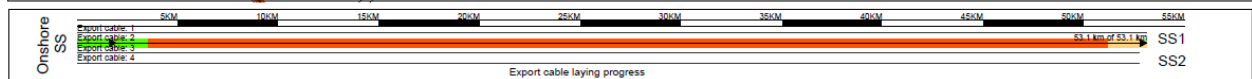
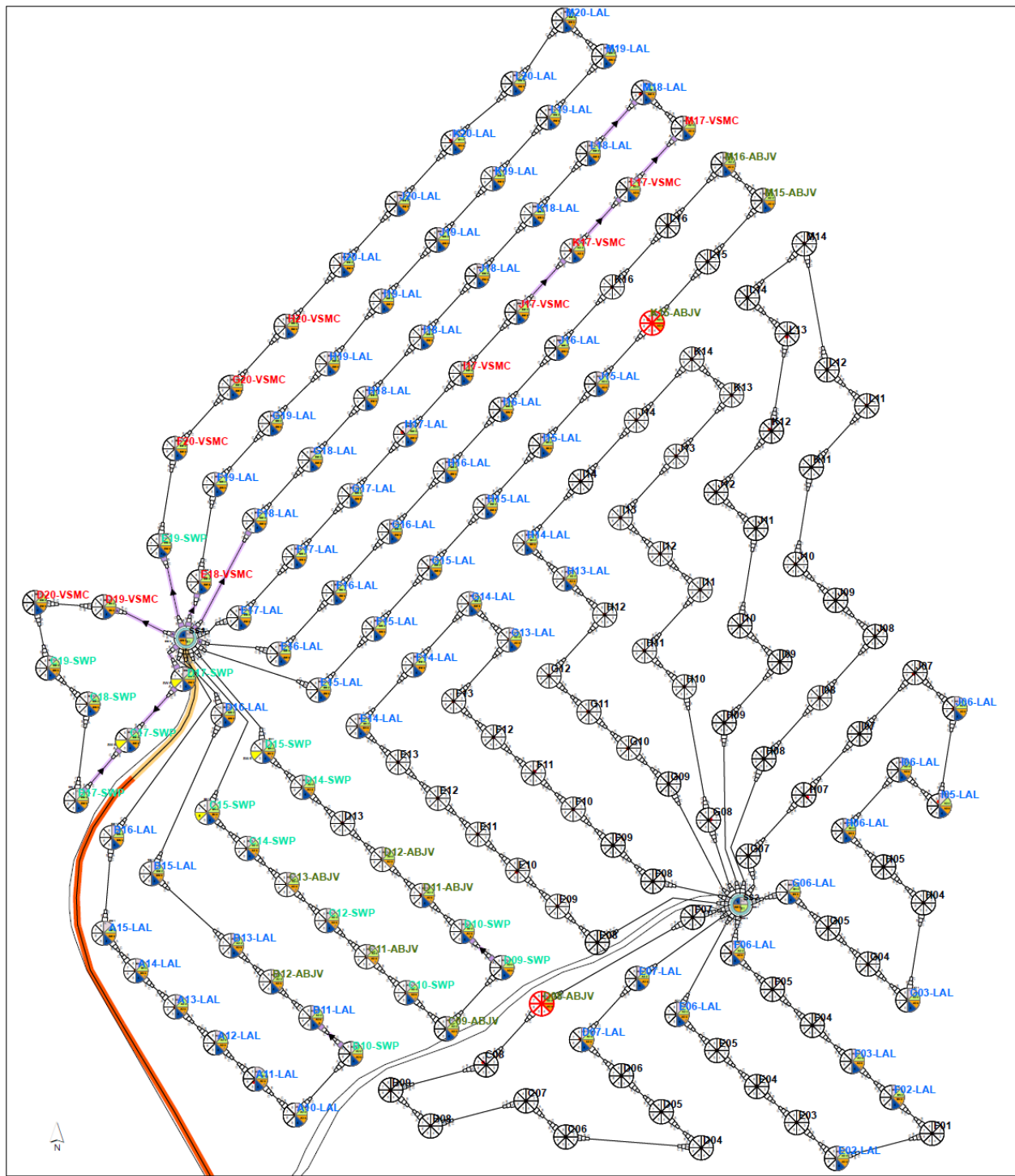
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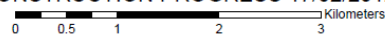
Attachments

- Chartlet of foundations installed, (At the end of this document)
- Lay out of wind farm. (At the end of this document)
- Overview of Kentish Flats and BritNed cable crossings. (At the end of this document)
- Spread sheet of vessels. (Separate attachment to this e-mail)

Chartlet of installed foundations, WTGs and array cables



LONDON ARRAY: PHASE 1 CONSTRUCTION PROGRESS 17/02/2012

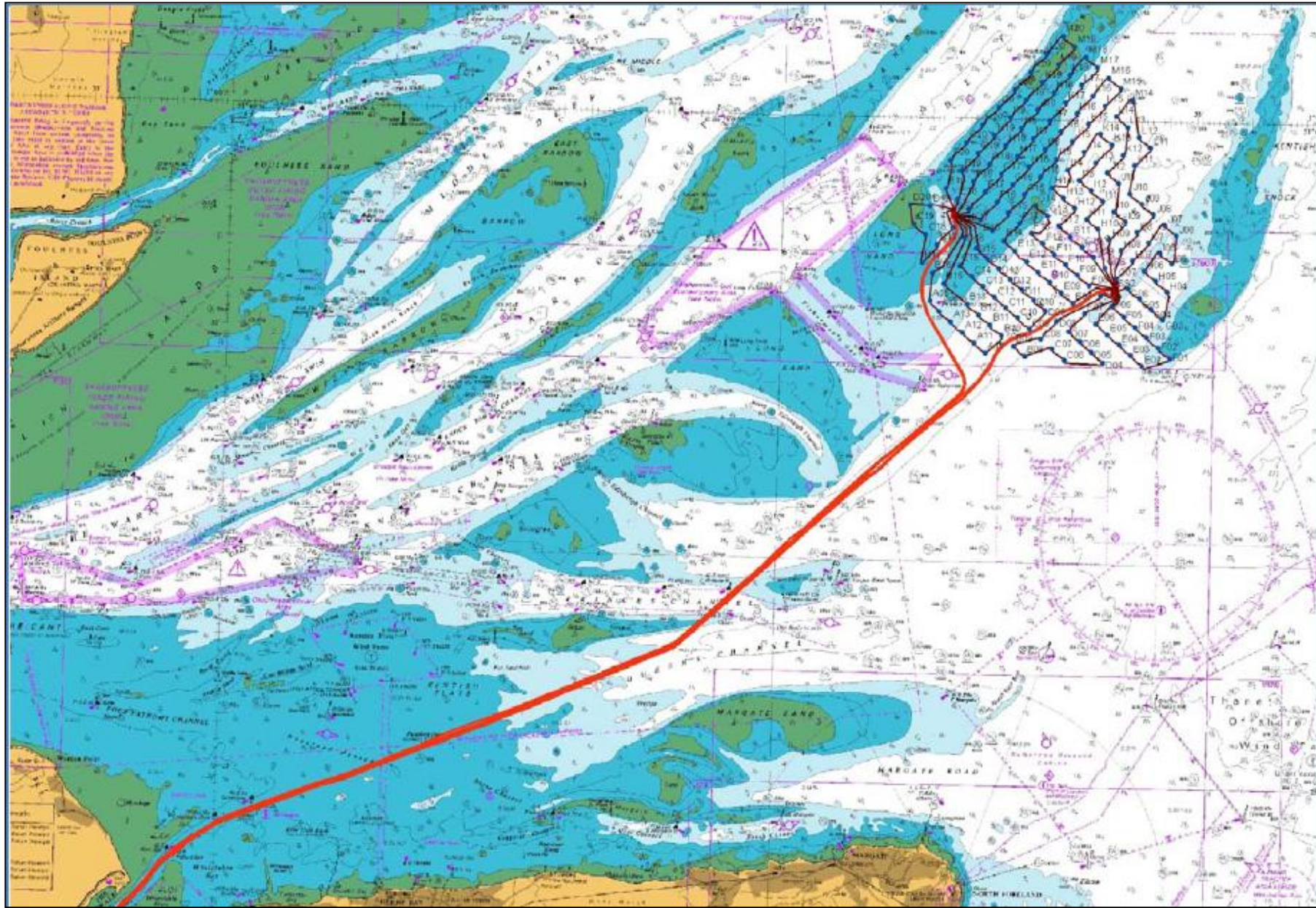


Legend

- | | | | | |
|------------------------|-------------------|--------------------|------------------------------|---|
| 1 MP installed | 5 TP energised | A Cable pulled | Grouted in last 7 days | A11-ABJV Owned by ABJV |
| 2 TP installed | 6 WTG erected | B Cable terminated | Export cable laying progress | A11-LAL Taken over by LAL |
| 3 Grout applied | 7 WTG energised | C Cable buried | Latest progress | A11-VSMC Temporary access granted to VSMC |
| 4 Foundation inspected | 8 WTG 240 hr test | S1 Filter layer | Inshore | A11-SWP Temporary access granted to SWP |
| | | S2 Armour layer | Stemat Spirit | |



Layout of London Array Offshore Wind Farm, and Export cable route



Overview of Kentish Flats and BritNed Cable Crossings

