Shaded blocks indicate activity.

What's inside?

**New Hazards (p.3)**

**Area 1** (p.4-5)
1. Survey Activity
2. Deployment of Buoys

**Area 2** (p.6-8)
1. Seabed Activity

**Area 3** (p.9-15)
1. Notice to Fishermen
2. Survey Activity
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1. N.A

**Area 5** (p.16-17)
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1. N.A

**Extra...** (p.18)
1. Awareness Charts
2. Fishing Plotter Files
Support
The Kingfisher Bulletin is provided by the Kingfisher Information Service of Seafish, to promote the awareness of offshore hazards to fishing, new structures and zones and conflicting offshore operations. Support for the production of renewable industry information is received from The Crown Estate.

Information
Information contained within the Kingfisher Bulletin comes from a variety of sources, although is in the majority, supplied directly to Kingfisher from the offshore operating industry, or government licensing authorities.

Coordinates within the Kingfisher Bulletin are converted into World Geodetic System 1984 (WGS84) and displayed as degrees, minutes and decimal minutes, to three decimal places (ddd“mm.mmm”). Route or boundary coordinates may be simplified for ease of use.

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## Area 1 Hazard List

<table>
<thead>
<tr>
<th>Hazard Type</th>
<th>Position</th>
<th>Issue Date</th>
<th>Contact Details</th>
<th>Map</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pipeline Span Length 21m Height 2m</td>
<td>60°54.521’N 001°37.699’E</td>
<td>24 Aug 2017</td>
<td><a href="mailto:jonathan.hoare@cnrl.com">jonathan.hoare@cnrl.com</a></td>
<td></td>
</tr>
<tr>
<td>Obstruction from Well 9/27-4</td>
<td>59°00.306’N 001°17.721’E</td>
<td>11 July 2017</td>
<td><a href="mailto:rawe@statoil.com">rawe@statoil.com</a></td>
<td></td>
</tr>
<tr>
<td>AXS Bundle Span – Alba Field</td>
<td>58°02.592’N 001°05.106’E</td>
<td>29 June 2017</td>
<td>pat.das <a href="mailto:Gupta@chevron.com">Gupta@chevron.com</a></td>
<td></td>
</tr>
<tr>
<td></td>
<td>to 58°02.607’N 001°05.088’E</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

## Area 2 Hazard List

<table>
<thead>
<tr>
<th>Hazard Type</th>
<th>Position</th>
<th>Issue Date</th>
<th>Contact Details</th>
<th>Map</th>
</tr>
</thead>
<tbody>
<tr>
<td>A Tidal Gauge System, 1m x 1m base plate, 40kg</td>
<td>57°04.674’N 002°04.542’E</td>
<td>10 Aug 2017</td>
<td><a href="mailto:nick.strachan@uk.bp.com">nick.strachan@uk.bp.com</a></td>
<td></td>
</tr>
</tbody>
</table>

## Area 3 Hazard List

<table>
<thead>
<tr>
<th>Hazard Type</th>
<th>Position</th>
<th>Issue Date</th>
<th>Contact Details</th>
<th>Map</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wreck of MV Ella</td>
<td>52°23.640’N 001°48.960’E</td>
<td>11 July 2017</td>
<td><a href="mailto:lee.cornwell@innogy.com">lee.cornwell@innogy.com</a></td>
<td></td>
</tr>
</tbody>
</table>

## Area 5 Hazard List

<table>
<thead>
<tr>
<th>Hazard Type</th>
<th>Position</th>
<th>Issue Date</th>
<th>Contact Details</th>
<th>Map</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 x pipeline spans 2 metres high and 16 metres and 12 metres long</td>
<td>54°59.484’N 005°13.235’W</td>
<td>25 July 2017</td>
<td><a href="mailto:kingfisher@seafish.co.uk">kingfisher@seafish.co.uk</a></td>
<td></td>
</tr>
<tr>
<td>Potential Seabed Obstruction</td>
<td>51°42.600’N 008°11.214’W, 51°42.600’N 008°10.739’W, 51°41.327’N 008°11.466’W, 51°41.778’N 008°11.941’W</td>
<td>30 June 2017</td>
<td><a href="mailto:navwarnings@btconnect.com">navwarnings@btconnect.com</a></td>
<td></td>
</tr>
</tbody>
</table>

The Hazard List is a collection of potential fishing hazards supplied to Kingfisher from across all offshore industries. Potential hazards will be listed for 6 months.
Seabed Activity

First Published: 18 May 2017 | Latest Update: 10 August 2017

Bluemull Sound (Shetland) – Subsea Tidal Array

The purpose of the operation is to conduct operations on a subsea tidal energy array in the Bluemull Sound, Shetland.

Multicat vessel the Leask Marine MV C-Odyssey (pictured below, call sign 2ETV7) will conduct offshore and subsea operations. Works will include loading and preparatory work at Cullivoe Pier. The work will be conducted from August 2017 to November 2017; operations could take place during day or night. Operations will be conducted within a 200m radius of the array location and up to 30m either side of the cable corridor route; cable waypoints are listed below.

Array location: 60°41.906N 00°59.016W

For further information: Tom Wills, Nova Innovation, Tel: 0131 241 2000 email: info@novainnovation.com

Seabed Activity

First Published: 18 May 2017 | Latest Update: 21 August 2017

Beatrice Offshore Windfarm Limited – Foundation Piling Operations

In preparation for the installation of wind turbine foundations in the Beatrice Offshore Windfarm construction site, piles will be installed in the seabed on each of the foundation locations outlined in Table 1 below

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. Completed when highlighted.

For further information: John Bray – BOWL Lead Marine Coordinator, Tel: 0330 2020329, mc.bowl@sse.com
Mariners are advised that, in conjunction with Beatrice Offshore Windfarm Limited (BOWL), and further to notice UoA/02/2017, the University of Aberdeen has installed seabed mounted scientific equipment moorings in the Moray Firth at the locations listed below:

Mariners are also advised that the University of Aberdeen intends to remove seabed mounted scientific equipment moorings in the Moray Firth at the locations listed below:

The moorings support sound recording equipment, and acoustic loggers that record echolocation clicks of dolphins and porpoises (see images of devices at the foot of this notice). The above moorings consist of a 150kg weight and surface marked rope riser. All are marked as noted in the table above.

Mariners are further advised that the following existing moorings will be serviced and re-installed in their current location in the Moray and Cromarty Firths.

All works will be carried out by Moray First Marine, using the vessel “Coral Wind” Installation works will take place on 28th April. Removal and service works will commence w/c 1st May, subject to weather and progress of BOWL piling operations.

For further information: Tim Candido Barton, University of Aberdeen Tel:+44(0)131 650 6504 email: tr.barton@addn.ac.uk

Survey Activity

Moray Offshore Wind Farm – Survey

For further information: Holly Best, EU-Offshore Project UK, Tel: +44(0)131 556 7602 email: holly.best@edpr.com
Seabed Activity
Blyth Offshore Demonstrator Project – Seabed Preparation Works

Please be advised of the following activities proposed to be undertaken at the Blyth Offshore Demonstrator (BOD) Project.

Please note - All mariners are requested to maintain a minimum 500m safety zone around each turbine location.

Turbine Placement Location

<table>
<thead>
<tr>
<th>Turbine</th>
<th>Coordinates</th>
</tr>
</thead>
<tbody>
<tr>
<td>Turbine 6</td>
<td>55°08.870’N  01°24.791’W</td>
</tr>
<tr>
<td>Turbine 7</td>
<td>55°08.379’N  01°24.378’W</td>
</tr>
<tr>
<td>Turbine 8</td>
<td>55°07.880’N  01°24.034’W</td>
</tr>
<tr>
<td>Turbine 9</td>
<td>55°07.341’N  01°23.771’W</td>
</tr>
<tr>
<td>Turbine 10</td>
<td>55°06.797’N  01°23.607’W</td>
</tr>
</tbody>
</table>

Anchor Pre-installation works
Please be advised that anchor pre-installation works will be continuing on the BOD Project Array 2 site. Anchor installation works are being undertaken at GBF Locations 8 and 9 and the Array 2 site as marked with cardinal buoys. Anchors are expected to remain until on or around the end of August 2017. The vessels request a 500m safety zone and can be contacted on VHF 16 when on location. Anchors will be indicated with buoys while present on the seabed within the Array 2 site for which a 500m safety zone is requested around each turbine position.

Anchor Placement Indicative Timetable

<table>
<thead>
<tr>
<th>Installation</th>
<th>Location within Array</th>
</tr>
</thead>
<tbody>
<tr>
<td>Currently Installed</td>
<td>Location 9 (for sand Barge)</td>
</tr>
<tr>
<td>Currently Installed</td>
<td>Location 8 (for sand Barge)</td>
</tr>
</tbody>
</table>

Ballasting of Gravity Based Foundations
Sand ballasting operations are continuing at GBF Locations 8 and 9 until on or around the end of August 2017. The ballasting will be performed from a sand barge which is anchored in the vicinity of Locations 8 and 9 within the Array 2 site. The barge will be mobilised from Port of Blyth and towed to site by seagoing tugs accompanied by additional vessels. A safety zone of 500m is requested around the barge at all times. Operations can be contacted on VHF 16 whilst on Site. Regular Crew Transfer Operations will take place between the Array 2 Site and Port of Blyth during the installation operations. Ballasting operations are expected to be completed within 5 days (for each location), subject to weather, followed by demobilisation works at each GBF Location within the Array 2 Site.

Vessel Details: En Avant Call Sign: PHDP; EnAvant 10 Call Sign: PCPP; Multtrasalvor 3 Call Sign: PCID; Multitug 4 Call Sign: PDBV; ICENI Call Sign: 2EIU7; MPI Rucio Call Sign: 2CVW7

Scour Protection
Please be advised that the Nordnes (flexible fallpipe vessel) shall be operating on the Array 2 site from on or around 26th August 2017 (for an estimated five days, excluding weather). Scour protection works i.e. placement of a layer of protective stone around the base of the foundations, will be undertaken in the vicinity of the five proposed turbine locations detailed above. A 500m safety zone around the vessel is requested at all times and can be contacted on VHF 16 when on location.

Vessel Details: Nordnes Call Sign: PHOG

From on or around 29th August the Ndurance (cable lay vessel) will be operating in the Array 2 site laying and burying the export cable. The vessel will initially be simultaneously laying and burying the export cable from the shore end near Cambois to GBF Location 6. The Ndurance will be supported by the Torsten and the Sea Alpha (anchor handling tugs). The vessel will then lay the inter-array cable starting at GBF Location 6 on or around 4th September 2007 finishing at GBF Location 10 on or around 12th September, subject to weather. During this time the MCS Coromell (crew transfer vessel) will be operating from the Port of Blyth to the Array 2 site to support cable operations.

A 500m safety zone around the vessels is requested at all times and can be contacted on VHF 16 when on location. When working on the inter-array cable between GBF Locations 6 – 10 it is requested that a 500m safety zone is maintained at all times from the vessels, GBF Locations and from the areas directly between GBF Locations.

Vessel Details: Ndurance Call Sign: 5BVH3; Torsten Call Sign: PCLE; Sea Alpha Call Sign: PHSA; MCS Coromell Call Sign: 2GMB5

For further information: Simon Prince Specialist Marine Consultant Ltd, Tel: +44 1723 892861 email: simonp@smchse.com
**Seabed Activity**

**Kincardine Offshore Wind Ltd (KOWL) – Met Ocean Equipment Deployed**

Partrac will deploy one wave measurement buoy, one Seabed frame and one guard buoy on the Kincardine offshore wind site. Deployment will begin on 27th of May 2017 and will be in for between 6-12 months. The vessel ‘Coral Wind’ will be used.

<table>
<thead>
<tr>
<th>Name</th>
<th>Coordinates</th>
<th>Depth</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wave Buoy</td>
<td>57°00'41.8&quot;N  01°52.0'3&quot;W</td>
<td>70 – 80m</td>
</tr>
<tr>
<td>Seabed Frame</td>
<td>57°00'20.3&quot;N  01°51.8'25&quot;W</td>
<td>70 – 80m</td>
</tr>
<tr>
<td>Guard Buoy</td>
<td>57°00'41.8&quot;N  01°52.3'30&quot;W</td>
<td>70 – 80m</td>
</tr>
</tbody>
</table>

An All Round Wide Berth by all Vessels, particularly Fishing Vessels of at least 500 Metres is requested. The Ongoing Cooperation and Support of All Mariners and Fishermen during these Operations is also appreciated.

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

**Seabed Activity**

**Docker Bank – Met Masts**

Please be advised that licensed activities described in marine license L/2017/00171/1 are scheduled to take place between 27 August 2017 and 04 September 2017.

The Seafox, a self-propelled jack up rig will be performing job activity of complete removal of Doggerbank Metmast East and Metmast West. All vessels in vicinity are advised to keep at least 500 meter clear of the operations. In addition to this notification, a rigmove warning will be issued prior to Seafox 5 Call Sign: 2FEP5 departing the port.

<table>
<thead>
<tr>
<th>Name</th>
<th>Coordinates</th>
<th>Depth</th>
</tr>
</thead>
<tbody>
<tr>
<td>East Mast</td>
<td>55°05.965'N 002°42.1'50&quot;E</td>
<td>70 – 80m</td>
</tr>
<tr>
<td>West Mast</td>
<td>54°52.017'N 001°49.1'98&quot;E</td>
<td>70 – 80m</td>
</tr>
</tbody>
</table>

Avoidance to a range of 500m of all locations is requested.

For further information: Chris Emerson, Tel: +31 23 2050000 email: mate.SF5@seafox.com

**Seabed Activity**

**Hywind Floating Wind Farm – Suction Anchors**

As part of the Hywind Scotland Wind Park development, Statoil has subcontracted Partrac Ltd to deploy one wave measurement buoy at the location below from 12th July 2017.

The wave buoy will remain in place for minimum one year. An update will be made to the Notice to Mariners prior to the buoy’s recovery or extension of this period.

57°28.445’N 001°23.558’W 101m Depth

The vessel C-Odyssey will be used for the deployment operation. The wave buoy is 1.2 m in diameter and bright yellow in colour. It transmits a light sequence as FI Y (5) 20s and is moored using a single point compliant mooring with a scope of up to 300m.

Avoidance to a range of 500m is requested.

For further information: Tom Guttormsen tomgu@statoil.com / Arthur Skartveit artsk@statoil.com
### Survey Activity

**Moray Offshore Wind Farm – Survey**

Please be advised that Moray Offshore Windfarm (East) Limited (known as Moray East) will have a survey vessel working in the nearshore area of the Moray East export cable corridor site.

<table>
<thead>
<tr>
<th>Company, Vessel &amp; Call Sign</th>
<th>Survey Area</th>
<th>Survey Area</th>
<th>Start Timeframe &amp; Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bibby Hydromap MERD8</td>
<td>57°40.507’N 002°33.3911’W</td>
<td>57°40.792’N 002°32.845’W</td>
<td>24th August 2017 For 7 Days</td>
</tr>
<tr>
<td></td>
<td>57°40.945’N 002°33.182’W</td>
<td>57°40.418’N 002°33.476’W</td>
<td></td>
</tr>
</tbody>
</table>

For further information: Gordon Steven Tel: 07771 575120 email: gj_steven@hotmail.com

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### Survey Activity

**Moray Offshore Wind Farm – Survey**

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### Survey Activity

**Kincardine Offshore Wind Farm – Survey**

Please be advised that Horizon Geosciences will be performing geophysical site investigation works on behalf of Kincardine Offshore Wind Limited (KOWL) at the Kincardine Offshore Windfarm, offshore Scotland, in the North Sea.

<table>
<thead>
<tr>
<th>Company, Vessel &amp; Call Sign</th>
<th>Survey Area</th>
<th>Survey Area</th>
<th>Start Timeframe &amp; Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Horizon Geosciences Ltd Kommandor Stuart MPQ3H Remote Sensor</td>
<td>57°07.811’N 002°02.655’W</td>
<td>56°56.315’N 001°44.844’W</td>
<td>15th May 2017 Until End of August</td>
</tr>
<tr>
<td>Remote Sensor MQAM3</td>
<td>57°07.497’N 002°01.656’W</td>
<td>56°59.097’N 001°55.722’W</td>
<td></td>
</tr>
<tr>
<td></td>
<td>57°06.080’N 002°00.466’W</td>
<td>57°00.129’N 001°55.143’W</td>
<td></td>
</tr>
<tr>
<td></td>
<td>57°02.577’N 001°53.019’W</td>
<td>57°04.556’N 002°03.935’W</td>
<td></td>
</tr>
<tr>
<td></td>
<td>57°05.513’N 001°49.731’W</td>
<td>57°05.378’N 002°04.837’W</td>
<td></td>
</tr>
<tr>
<td></td>
<td>57°02.849’N 001°39.118’W</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

For further information: John Cudden, Horizon Sciences Limited, Tel: +44(0) 1173291080 email: j.cudden@horizon-geosciences.com
Notice to Fishermen

**Fishing Hazard – Wreck MV Ella**

Please be advised the vessel MV Ella Sank and has been marked with a 25 litre can attached to 110m of rope at the following position:

Position: **52°23.640'N 001°48.960'E**

*For further information: Lee Cornwall, Galloper Wind Farm, Tel: +44(0)7917 474352  email: lee.cornwall@innogy.com*

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Notice to Fishermen

**Race Bank Offshore Wind Farm – Entire Fishing Clearance Zone Closed**

The Fishing Clearance Zone shown in the below chart remains closed to all forms of fishing, and is expected to remain closed until Q4 2017 / Q1 2018. The deployment of any fishing gear, or fishing anywhere within, the Fishing Clearance Zone remains strictly prohibited.

Fishing vessels are able to transit through the Fishing Clearance Zone. However, all fishing vessels must maintain a safe distance from, and not disrupt, any vessel engaged in, or supporting, Race Bank construction operations.

CONSTRUCTION ACTIVITIES CONTINUE AT THE RACE BANK OFFSHORE WIND FARM AND ALONG THE EXPORT CABLE ROUTE

All wind turbine foundations and both offshore substations have been installed. All array cables have been laid on the seabed and burial works are due to resume imminently and will continue for the coming months. Cable burial and installation works remains ongoing along the export cable route. The full length of the southernmost export cable has been installed, and the section of the northermost export cable that crosses the intertidal area has been installed. Work to lay and bury the remaining section of the northermost export cable is underway.

Seabed levelling operations are required along sections of the northermost export cable route. Export cable jointing pits need to be created at two locations along the northermost export cable. Proposed disposal and temporary stockpile sites for the seabed sediment generated as a result of the seabed levelling and joint-pit works respectively.

In order to comply with a Marine Licence issued by the MMO on 09/06/2017, the spatial extent of Temporary Storage Area KP27 must extend across an area that is part-located outwith the Fishing Clearance Zone. Placement of sediment within Temporary Storage Area KP27 will not commence before 16/06/2017, and the subsequent recovery of sediment is scheduled to be complete by the end of July 2017. DONG Energy requests that this area (bounded by the below coordinates) is kept free of static fishing gear during this period.

53° 0.192' N  0° 25.151' E
53° 0.119' N  0° 25.021' E
53° 0.167' N  0° 25.183' E
53° 0.083' N  0° 25.038' E

*For further information: Hywel Roberts, DONG Energy, Tel: +44(0)20 7811 5486  email: hywro@dongenergy.co.uk*

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Notice to Fishermen

**Kentish Flats Offshore Wind Farm – Unknown Submerged Object**

All Mariners are to be advised that there is unknown submerged object in the vicinity of Kentish Flats windfarm. The object was reported from the vessel Cwind Tempest at the location below an emergency wreck marking buoy has been deployed in the following position:

51°27.395'N  001°06.868'E

The unidentified submerged object is standing upright and the dimensions are 3.1m Length x 1.9m width x 2.3 m Height. The upper edge is reported to be approximately 1-1.5m below Chart datum.

The buoy has an alternate blue and yellow flashing light sequence Al Bu/Y 3s 4M

It is recommended that all seafarers remain outside of the windfarm for their own safety.

*For further information: Jennifer Munns, Vattenfall, Tel: 01843 572136 email: Jennifer.munns@vattenfall.com*
Greater Gabbard Offshore Wind Farm – Jack Up Vessel Operations

Jack-up vessel Windserver will be conducting major component exchanges at Greater Gabbard offshore windfarm. The vessel will be in operation at 2 locations in the Inner Gabbard field and 2 locations in the Galloper field.

Site work is planned to commence between 23 Aug 2017 and 29 Aug 2017. Operations may last 11 days, subject to weather. The vessel will be supported by crew transfer vessel Dalby Swale.

Description of works:

The following wind turbines and co-ordinates are where the operations will take place.

<table>
<thead>
<tr>
<th>Asset</th>
<th>Co-ordinates</th>
</tr>
</thead>
<tbody>
<tr>
<td>IGMMX</td>
<td>51° 51.560'N 01° 53.680'E</td>
</tr>
<tr>
<td>GAD10</td>
<td>51° 44.130'N 01° 56.563'E</td>
</tr>
<tr>
<td>GAF01</td>
<td>51° 47.133'N 01° 59.910'E</td>
</tr>
<tr>
<td>IGG08</td>
<td>51° 53.754'N 01° 55.938'E</td>
</tr>
</tbody>
</table>

A 500 meters exclusion zone will be in force around the Jack-up vessel Windserver at all times, if you need to approach the vessel please contact them on VHF ch 16.

For further information: Chris Emerson, Tel: +31 23 2050000 email: mate.SF5@seafox.com

Teesside Offshore Wind Farm – Gearbox Exchange

A Gearbox exchange is planned to commence within the boundaries of Teesside offshore windfarm on turbine 14 with the assistance of the Wind Server jack-up vessel.

The works will involve removal of the existing gearbox and installation of a new one. Anticipated duration of work at the turbine will take 4-5 days, depending on the turbine status and weather conditions. We plan for the works to commence on the 15th August 2017 but we will issue a further notice nearer the time with exact confirmation of the date. For safety reasons there will be a 250m exclusion zone around the radius of turbine 14.

Turbine 14 Location: 54°38.750"N 001°05.720"W

For further information: Andy Edgar, EDF Energy Renewables, email: andy.edgar@edf-er.com

Galloper Wind Farm – Continuation of Inter Array Cable Operations

Please be advised that the Jack Up Vessel “Bold Tern” is expected to commence operations at Galloper Offshore Windfarm circa 4th September 2017 until further notice.

The vessel will be installing Wind Turbine Generators, operating from the Port of Great Yarmouth and Galloper Offshore Windfarm.

The vessel can be contacted on VHF Channel 16 throughout and require a 500m radius exclusion zone, with permission to enter (and any other information) being given direct via marine VHF between the vessels.

For further information: Lee Cornwell, Galloper Wind Farm Limited, Mob: +44 (0)7917 474352, Email: lee.cornwell@rwe.com
Seabed Activity

Rampion Offshore Wind Farm – Installation of Fibre Optic Cable

Rampion are requesting that no fishing operations take place in the Windfarm

Trenching

The barge Beluga, assisted by the tug Husky – 2EQ17, is planning to dig a trench (approx. 4.2km in length) from the beach at Lancing toward the offshore substation. Start date for trenching is planned to be 25/06/17, weather permitting, and is due to be completed by the 28/08/17. Upon completion of the trench, the cable will be laid. The vessels will then return to backfill the trench after completion of cable laying. Backfilling is planned to start around 29/08/17 and will last approximately 10 days weather permitting. The cable will be laid in between the 2 existing export cables.

Dive Operations

Once the cable has been installed, the vessel C Fenna – MBAH3 will return to support diving operations to clamp the cables to the installed fixings. Operations are planned to commence on the 30/08/17 and last for approximately 2 days weather permitting.

Cable Laying

The CS Recorder – MATL3, assisted by the Jif Challenger- FIYA (nearshore cable lay), will lay the cable in the neashore trench and out to the OSP. Operations are planned to start on the 29/08/17 and be completed by the 03/09/17, weather permitting.

Actions

The construction vessels will be restricted in manoeuvrability during operations. All vessels are requested to remain a minimum safe distance of 500m from the construction vessels at all times. Furthermore, all mariners are requested to make themselves aware of their obligations for conducting activities over buried cables. All mariners should be aware that High Speed project vessels (crew transfer vessels) are operating between the ports of Brighton, Shoreham, predominantly Newhaven and the wind farm.

Revised Export Cable shallow buried exposed sections of cable

Due to either seabed conditions, or to enable jointing/protection works planned for later in 2017, some sections of the export cables have been either shallow buried or laid exposed on the seabed. Rock bags have been placed above some parts of these exposed/shallow buried cable sections to stabilise them until all construction works are complete. The shallow buried/exposed sections of cable and rock bags represent a significant hazard to fishing vessels and their gear (if fishing gear is deployed over them) and any vessels anchoring over them. All commercial/recreational fishing vessels deploying any form of demersal fishing gears (trawls/shellfish dredgers etc.) or fixed fishing gears (pots, traps, nets etc) should ensure that:

- The Wind Farms requests, all such Gears DO NOT come within 500m of the exposed/shallow buried cables (as indicated above)
- The Wind Farms requests, mobile or towed demersal fishing gears (trawls, shellfish dredgers etc) gears DO NOT come within the vicinity of the cables in locations outside of these defined hazard areas.
- Furthermore, interaction between fishing gear (OR anchors) and the export cables could also cause damage to the export cables themselves. All mariners are requested NOT to anchor within 100m of the export cables and to make themselves aware of their obligations for conducting activities over buried cable.

The current lattice structure has failed and will be replaced in due course.

Project Wave Rider: Please note Wave Rider No.3 has now been relocated:

<table>
<thead>
<tr>
<th>Wave Rider</th>
<th>Cardinal Buoy Positions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wave Rider 1</td>
<td>50°41.409’N 00°15.816’W</td>
</tr>
<tr>
<td>Wave Rider 2</td>
<td>50°40.192’N 00°13.352’W</td>
</tr>
<tr>
<td>Wave Rider 3</td>
<td>50°46.555’N 00°18.070’W</td>
</tr>
</tbody>
</table>

The buoys are fitted with an amber flashing light, fl 5 at 0.5 Hz every 20s.

Special Yellow marker buoys with 2-3nm yellow light which flashes 1 sec every 5 seconds.

For further information: Gordon Bain (Eon Marine Coordination) +44(0)7787241442 email leadmc@rampionoffshore.com

11 of 18
**Seabed Activity**

**London Array Wind Farm – Activity**

**Vessels**
Crew transfer vessels: SC Amethyst, SC Falcon, TMS Bittern, Windcat 4, Windcat 18, Windcat 21 and Windcat 39 will take offshore technicians to the Wind Turbine Generators and Offshore Substations for routine operations and maintenance works.

Crew transfer / survey vessel Spectrum 1 will be taking paint inspection teams to the met mast and locations on site and also undertaking survey operations within the windfarm and along the export cables.

Dive support vessel CWind Phantom will undertake Diver inspections at various locations around the wind farm.

**Buoys**
Temporarily removed for Maintenance, but the Guard Buoys will remain on station.

<table>
<thead>
<tr>
<th>Identity</th>
<th>Coordinates</th>
<th>Light</th>
<th>Characteristics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Long Sand (Middle)</td>
<td>51°40.328’N 01°31.177’E</td>
<td>Fl (5) Y 20s 2nm</td>
<td>Yellow spherical buoy, transparent top dome with solar panels and flashing light.</td>
</tr>
</tbody>
</table>

Temporarily removed for Maintenance, but the Guard Buoys will remain on station.

<table>
<thead>
<tr>
<th>Identity</th>
<th>Coordinates</th>
<th>Light</th>
<th>Characteristics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Knock Deep (North)</td>
<td>51°37.064’N 01°30.364’E</td>
<td>Fl (5) Y 20s 2nm</td>
<td>Protected by 2 guard buoys stationed approximately 50 - 100 meters to the North and South.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Identity</th>
<th>Coordinates</th>
<th>Light</th>
<th>Characteristics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Guard Buoy (North)</td>
<td>51°37.105’N 01°30.467’E</td>
<td>Fl (5) Y 20s 2nm</td>
<td>Yellow sphere with flashing light and radar reflector.</td>
</tr>
<tr>
<td>Guard Buoy (South)</td>
<td>51°37.058’N 01°30.307’E</td>
<td>Fl (5) Y 20s 2nm</td>
<td>Yellow sphere with flashing light and radar reflector.</td>
</tr>
</tbody>
</table>

**Foulgers Gat Safe passage marker buoys**

<table>
<thead>
<tr>
<th>Identity</th>
<th>Coordinates</th>
<th>Light</th>
<th>Characteristics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Long Sand Inner</td>
<td>51°38.770’N 01°25.430’E</td>
<td>Iso. 2 sec</td>
<td>Spherical with Red and White vertical stripes</td>
</tr>
<tr>
<td>Long Sand Outer</td>
<td>51°34.610’N 01°28.330’E</td>
<td>Iso. 2 sec</td>
<td>Spherical with Red and White vertical stripes</td>
</tr>
<tr>
<td>Long Sand Middle</td>
<td>51°35.600’N 01°26.450’E</td>
<td>Iso. 5 sec</td>
<td>Spherical with Red and White vertical stripes</td>
</tr>
</tbody>
</table>

**Deployment of Buoys**

**Thanet Offshore Wind Farm – Met Ocean Measurement Campaign**

All Mariners are to be advised that a Metocean Measurement Campaign, primarily measuring waves and currents, is being conducted at two locations to the north and south of the existing Thanet Offshore Wind Farm.

Equipment was deployed on 16th and 17th December 2016 and will remain in position for one year. The equipment was repositioned on the 15th and 16th March 2017 please see below new positions.

<table>
<thead>
<tr>
<th>Location</th>
<th>Equipment</th>
<th>Coordinates</th>
<th>Depth</th>
</tr>
</thead>
<tbody>
<tr>
<td>A2b</td>
<td>AWAC</td>
<td>51°27.950’N 01°38.868’E</td>
<td>-22m</td>
</tr>
<tr>
<td>A2b</td>
<td>Wavebuoy</td>
<td>51°27.950’N 01°38.782’E</td>
<td>-22m</td>
</tr>
<tr>
<td>A2b</td>
<td>Guardbuoy</td>
<td>51°28.008’N 01°38.951’E</td>
<td>-22m</td>
</tr>
<tr>
<td>A3b</td>
<td>AWAC</td>
<td>51°23.870’N 01°38.658’E</td>
<td>-17m</td>
</tr>
<tr>
<td>A3b</td>
<td>guardbuoy</td>
<td>51°23.614’N 01°38.740’E</td>
<td>-17m</td>
</tr>
</tbody>
</table>

**For further information:** Jennifer Munns (Marine Supervisor) Tel: 01843 572 136 email: Jennifer.munns@vattenfall.com
Dudgeon Offshore Wind Farm – Construction Works

Wind turbine generators will be installed until Q3 2017. All construction work is planned to be completed late 2017.

Service Operation Vessel
The ESVAGT NJORD will be performing preparation support for the operation of the wind farm and will be in regular transit between the Dudgeon site and Great Yarmouth.

Wind Turbine Generator Installation
The SEA CHALLENGER will perform installation of the wind turbine generators (WTG) from January 2017 until Q3-2017. WTG installation and commissioning work in July – August 2017.

Accommodation Vessel
The VESTLAND CYGNUS will be on location until Q4-2017 as accommodation vessel for Turbine commissioning.

Commissioning Activities
For the commissioning and construction work there are several Crew Transfers Vessels operating in the wind farm area on a daily basis. This activity is ongoing and will continue until commissioning completes in Q4 2017.

Guard Vessel
The RESOLUTE or the ADVENTURE will be present at the site to safe guard the wind farm area.

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Seabed Activity

Hornsea Offshore Wind Farm – Planned

Mariners are advised that Hornsea Project One will be carrying out geotechnical investigations in mid-August for the proposed Hornsea Project One Offshore Wind Farm located within the UK Sector of the North Sea off the coast of East Yorkshire.

Activities will centre on the Hornsea Project One wind farm site area and export cable corridor. The following points define the extent of the project area in which geotechnical and geophysical investigations will be conducted.

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For further information: Stig J. Andersen, Statoil ASA  Tel: +47 95243448  email: stja@statoil.com

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For further information: Mark Browne , DONG, Tel: 4420 7 8115747  email: mbrow@dongenergy.co.uk

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Stay up to date
Always ensure you have the latest Kingfisher Bulletin and offshore fishing plotter data.
Deployment of Buoys

First Published: 29 June 2017  |  Latest Update: 29 June 2017

Norfolk Vanguard Offshore Wind Farm – Deployment of Wave Buoy

Mariners are to be advised that a Metocean Measurement Campaign, primarily measuring waves and currents, is being conducted at one location in the north-east of the Norfolk Vanguard Offshore Wind Farm development zone.

In preparation, two Trinity House Guard Buoys were deployed on 10th May 2017 and will remain in position for three years. One surface Directional Waverider Buoy was deployed on 15th June 2017 and will remain in position for three years. In addition, one seabed frame-mounted AWAC will be deployed for one year from 1st May 2018.

the planned metocean campaign locations (within ca. 500m of 52o 58’.50N, 002o 30’.96E).

<table>
<thead>
<tr>
<th>Equipment</th>
<th>Deployment</th>
<th>Recovery</th>
<th>Locations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wave Buoy</td>
<td>15th June 2017</td>
<td>31st May 2020</td>
<td>52°58.520’N 02°30.929’E</td>
</tr>
<tr>
<td>Guard Buoy 1</td>
<td>10th May 2017</td>
<td>31st May 2020</td>
<td>52°58.597’N 02°30.600’E</td>
</tr>
<tr>
<td>Guard Buoy 2</td>
<td>10th May 2017</td>
<td>31st May 2020</td>
<td>52°58.405’N 02°31.120’E</td>
</tr>
<tr>
<td>AWAC Lander</td>
<td>1st May 2018</td>
<td>31st May 2019</td>
<td>To be confirmed</td>
</tr>
</tbody>
</table>

For further information: Marc Browne, DONG Tel: +44 20 7 8115747  email: mbro@dongenergy.co.uk

Survey Activity

First Published: 24 August 2017  |  Latest Update: 24 August 2017

East Anglia Offshore Wind Farm – Survey

Company, Vessel & Call Sign | Survey Area | Survey Area | Start Timeframe & Duration
---|---|---|---
Kommandor Stewart MPQ3H 52°45.176’N 002°45.563’E 52°29.766’N 002°49.981’E 15th August 2017 For 10 Weeks
52°46.452’N 003°04.291’E 52°31.534’N 002°45.531’E

For further information: Peter Gatt Tel: +44 7880 936272  email: petergatt@btinternet.com

Survey Activity

First Published: 18 May 2017  |  Latest Update: 10 August 2017

Norfolk Boreas Offshore Wind Farm – Survey

Fugro will be conducting a geophysical, geotechnical and environmental surveys as detailed below:

Company, Vessel & Call Sign | Survey Area | Survey Area | Start Timeframe & Duration
---|---|---|---
Fugro 52°56.249’N 003°08.684’E 53°08.463’N 002°48.641’E 15th May 2017 Until Mid September
Fugro Pioneer C6BH3 52°52.232’N 002°45.571’E 53°14.480’N 003°03.521’E
Glomar Vantage HO3057 53°03.767’N 002°45.595’E
Victor Hensen 9HY27

For further information: Peter-Paul Lebbink, Fugro Survey B.V Tel: +31 (0)70 31 11855  email: p.lebbink@fugro.com
Mariners are advised that Hornsea Project One have detonated 20 of the 21 confirmed unexploded ordnance (UXO). All vessels are requested to keep a safe distance of **1500m** around location #4. The investigation for potential UXO is continuing with MV Zwerver III and further updates will be issued when further UXOs have been confirmed.

For further information: Nick Garside, Tel: +44(0)7538 827013 email: nick.garside@live.co.uk
As part of the intertidal and nearshore works involving the WALNEY EXTENSION (WOWO3+4) EXPORT CABLE LAY two positions of exposed cable are reported on the Middleton Sands.

These positions will be covered at high water

The positions are reported as between the following co-ordinates:

54°00.34’N 002°56.57’W to 54°00.41’N 002°53.97’W

and

54°00.31’N 002°56.58’W to 54°00.38’N 002°53.96’W

Mariners are requested and advised to note these positions and enter them on their charts/plotters and keep clear until notified that all of the nearshore works have completed and all cables are safely buried.

Pre Lay Grapnel Runs (PLGR) are to be carried out by the Utility vessel 'VOE VANGUARD' along the Farshore Section of the proposed Export Cable Route as well as the Interlink Export Cable (the cable that runs between the two Sub-Stations)

INTERLINK CABLE PLGR
From a position at the WOW04 Sub-Station approach at approx. 54°03.21’N 003°02.79’W to the WOW03 Sub-Station approach at approx. 54°05.67’N 003°51.18’W

FARSHORE EXPORT PLGR WOW04 EXPORT CABLE ROUTE from a nearshore position at approx. 53°54.97’N 003°11.01’W to the WOW04 Sub Station approach at approx. 54°03.21’N 003°02.79’W Depending on weather and conditions as well as the requirement for any boulder or debris removal the PLGR can be expected to last several weeks.

Cable Lay and Burial
The Cable Lay vessel 'MAERSK CONNECTOR' is currently Karlskrona, Sweden completing 2nd cable loadout.

Landfall operations for the WOW03 Cable are expected on or around 20th April with the completion of the nearshore cable lay works approx. 10th May, Intertidal works will continue through May.

'MAERSK CONNECTOR' will be accompanied by four Anchor Handling (AHV) vessels 'MORAG M', 'SALLY M', 'AILEEN M', 'MARILYN M'. The Guard Vessels 'OCTOPUS', 'MARY ANN' & 'JASON II' will also be in attendance during Cable Lay.

A wide berth, minimum 500 meters, is requested and required around all of the vessels engaged in the Cable Lay. The Guard Vessel ‘MARY ANN’ will keep a listening watch on VHF Channels 16 & 12 and can be contacted for information relating to vessel movements only

Guard Vessels
Two Guard Vessels 'KARIMA' and 'FAIRLINE SURVEYOR' are now on station at the WOW03+4 WIND FARM SITE (both can be contacted on marine band VHF channel 16)

Buoy
A series of Cardinal and Special Marker Buoys (10 in total) mark the construction area, or site, of the Walney Offshore Wind Farm Extension (WOW03+4)

All mariners should take note that the WOW 03 & 04 site is deemed a construction area and unless there are matters relating to their own safety or the safety of others they should keep clear and not enter until the Wind Farm has been commissioned with the Buoys removed and you have been informed.

For further information: Tom Watson: Tel: 01253 875565, Mob: 07903 173 624
Deployment of Buoys

First Published: 24 August 2016  |  Latest Update: 24 August 2017

West of Duddon Sands Wind Farm – Deployment Flidar Buoys

The two FLIDAR BUOYS, each with an associated marker or pendant buoy, and the one WAVE BUOY have now been deployed in the area just outside of the NW corner of the WEST of DUDDON SANDS WIND FARM, opposite the Met Mast and Turbine A01, and will remain in position for a period of approx. two months.

Position of Flidar Buoys

Flidar 1: 54°00.061’N 003°33.600’W
Flidar 2: 54°00.178’N 003°33.618’W

Characteristics of both buoys: Fl (5) Y 20s range 5nm

Seabed: The mooring system for each floating LIDARs will consist of a U shaped mooring with 2 cast iron sinkers of approx. 4T weights and approx. 80m of mooring chain with various shackles and swivels. Some of the chain will lie on the seabed, the proportion of chain on the seabed will be dependent and drift and tide

Surface: Each buoy will have a surface marker, or Pendant Buoy, denoting the position of the 2nd 4T seabed sinker weight.

POSITIONS OF MARKER OR PENDANT BUOYS

Pendant 1: 54°00.095’N 003°33.499’W
Pendant 2: 54°00.245’N 003°33.590’W

Characteristics of both buoys: Fl (5) Y 20s range 5nm

POSITION OF WAVE BUOY

54°00.021’N 003°33.425’W

Characteristics: Fl (5) Y 20s range 5nm

Seabed: Mooring: The mooring connection to the buoy is made with a 12mm stainless steel swivel. Ultrahigh molecular weight polyethylene line (UHMWPE) is used for the mooring line and the mooring is anchored to the ground using up to 600kg of heavy chain.

For further information: Tom Watson, Tel: 01253 875565, Mob: 07903 173 624
### Local Awareness Charts

<table>
<thead>
<tr>
<th>Chart</th>
<th>Area</th>
<th>Location</th>
<th>Turbines</th>
<th>Developer</th>
<th>Completed</th>
<th>Link</th>
</tr>
</thead>
<tbody>
<tr>
<td>Barrow</td>
<td>5</td>
<td>7km dudgeon Island</td>
<td>30</td>
<td>DONG Energy</td>
<td>1 Jul 2006</td>
<td>Download</td>
</tr>
<tr>
<td>Burbo Bank</td>
<td>5</td>
<td>5.2km Crosby</td>
<td>25</td>
<td>DONG Energy</td>
<td>27 Oct 2007</td>
<td>Download</td>
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<tr>
<td>Galloper</td>
<td>3</td>
<td>27km off Suffolk Coast</td>
<td>56</td>
<td>Galloper Wind Farm Ltd</td>
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<tr>
<td>Greater Gabbard</td>
<td>3</td>
<td>26km off Orford, Suffolk</td>
<td>140</td>
<td>SSE &amp; RWE Npower Renewables</td>
<td>7 Sept 2012</td>
<td>Download</td>
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<tr>
<td>Gwynt y Mor</td>
<td>5</td>
<td>13km off N Wales Cat</td>
<td>160</td>
<td>RWE Innogy / SWM / Siemens</td>
<td>18 Jun 2015</td>
<td>Download</td>
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<tr>
<td>Gunfleet Sands 1, 2 &amp; 3</td>
<td>3</td>
<td>8.5km off Clacton-On-S</td>
<td>50</td>
<td>DONG Energy</td>
<td>19 April 2010</td>
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<tr>
<td>Humber Gateway</td>
<td>3</td>
<td>8km off Holdmss Cat</td>
<td>73</td>
<td>E.ON UK</td>
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<tr>
<td>Kentish Flats</td>
<td>3</td>
<td>9km off Whitstable</td>
<td>30</td>
<td>Vattenfall</td>
<td>1 Oct 2015</td>
<td>Download</td>
</tr>
<tr>
<td>Lincs</td>
<td>3</td>
<td>8km off Skegness Cat</td>
<td>75</td>
<td>Centrica / DONG / Siemens</td>
<td>10 Oct 2013</td>
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</tr>
<tr>
<td>London Array</td>
<td>3</td>
<td>24km off Clacton-on-S</td>
<td>175</td>
<td>DONG Energy / E.On / Masdar</td>
<td>1 May 2013</td>
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<tr>
<td>Lynn and Inner Dowsing</td>
<td>3</td>
<td>5km off Skegness</td>
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<tr>
<td>North Hoyle</td>
<td>5</td>
<td>7.5km off Prestatyn</td>
<td>30</td>
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<tr>
<td>Ormonde</td>
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<td>off Walney Island</td>
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<td>Rhyi Flats</td>
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<tr>
<td>Teeside</td>
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<td>1.5km NE Teesmouth</td>
<td>27</td>
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<td>Thanet</td>
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<td>11km Foreness Point</td>
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<td>Walney 1 &amp; 2</td>
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<td>West of Duddon Sands</td>
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<tr>
<td>Westernmost Rough</td>
<td>3</td>
<td>25km north of Spurn P</td>
<td>35</td>
<td>DONG Energy</td>
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### National Awareness Charts

<table>
<thead>
<tr>
<th>Chart</th>
<th>Link</th>
</tr>
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<tr>
<td>North West Approaches &amp; North Sea North</td>
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</tr>
<tr>
<td>North Sea Central</td>
<td>Download</td>
</tr>
<tr>
<td>North Sea South</td>
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<tr>
<td>English Channel</td>
<td>Download</td>
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<tr>
<td>South Western Approaches</td>
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<td>Irish Sea</td>
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### National Fishing Plotter Files

<table>
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<tbody>
<tr>
<td>Kingfisher Fishing Plotter Files – KIS-ORCA January 2017 (Subsea Cables and Wind Farms)</td>
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