

Marine Licence A2: Project A – Transmission Assets

PART 1

Licensed activities

Interpretation**1.—(1)** In this licence—

“2008 Act” means the Planning Act 2008;

“2009 Act” means the Marine and Coastal Access Act 2009;

“ancillary works” means the ancillary works described in clause 2 of Part 1 of this licence that are not development within the meaning of section 32 of the 2008 Act;

“Annex 1 habitat” means a habitat set out in Annex 1 to Council Directive 92/43/EEC of 21st May 1992 on the conservation of natural habitats and of wild fauna and flora;

“authorised deposits” means the substances and articles specified in clause 2(3) of Part 1 of this licence;

“authorised development” means the development described in Part 1 of Schedule 1 to the Order that is development within the meaning of section 32 of the 2008 Act;

“authorised project” means the authorised development and the ancillary works authorised by the Order;

“authorised scheme” means Work Nos. 2A, 3A, 4A and 5A described in clause 2 of Part 1 of this licence;

“Cefas” means the Centre for Environment, Fisheries and Aquaculture Science or any replacement body;

“commence” means the first carrying out of any part of the licensed activities, except for pre-construction surveys and monitoring; and “commencement” must be construed accordingly;

“Condition” means a condition set out in Part 2 of this licence;

“construction vessel” means any vessel involved in the course of or used for the construction and/or maintenance of the authorised project;

“debris” means items or equipment of a significant size left on the seabed being lost from survey or construction vessels or the structures comprised within the authorised scheme;

“EIA Regulations” means the Infrastructure Planning (Environmental Impact Assessment) Regulations 2009;

“electrical circuit” means a number of electrical conductors necessary to transmit electricity between 2 points within the authorised project, comprising—

- (a) in the case of HVAC transmission, 3 conductors which may be bundled as 1 cable; and
- (b) in the case of HVDC transmission, 2 conductors, which may be attached together or take the form of single cables, and the electrical circuit may include 1 or more auxiliary cables (normally fibre-optic cables) for the purpose of control, monitoring, protection or general communications;

“enforcement officer” means a person authorised to carry out enforcement duties under Chapter 3 of Part 4 of the 2009 Act;

“environmental statement” means the document certified as the environmental statement by the Secretary of State under article 40 of the Order;

“gravity base foundation” means—

- (a) a structure principally of concrete or steel (or both) that rests on the seabed due to its own weight and that of added ballast or to the weight of water above it and may include associated equipment including suction piles, J-tubes and access platforms; or

(b) a structure principally of concrete or steel (or both) consisting of a platform supported on 2 pontoons to which the platform is connected by columns which may be connected by braces;

“high tide” means the state of the tide when it reaches its highest level during a tidal cycle, as may be published from time to time on the UK Hydrographic Office Admiralty EasyTide Website or such other publication as may be approved by the MMO;

“HVAC” means high voltage alternating current;

“HVDC” means high voltage direct current;

“in-principle monitoring plan” means the document certified as the in-principle monitoring plan by the Secretary of State under article 40 of the Order;

“intertidal area” means the area between MHWS and MLWS;

“intertidal works plans” means the part of the works plans described as the intertidal works plans;

“jacket foundation” means a lattice construction comprising tubular members and joints fixed to the seabed with piles (either driven/drilled piles or suction piles) which will include platforms and J-tubes and may include braced monopiles and a transition piece;

“Kingfisher Fortnightly Bulletin” means the bulletin published by the Humber Seafood Institute or such other alternative publication approved in writing by the MMO;

“LAT” means lowest astronomical tide;

“licensed activities” means the activities specified in Part 1 of this licence;

“maintain”, unless otherwise provided for, includes inspect, repair, adjust, alter, remove, reconstruct and replace any of the authorised development; and any derivative of “maintain” must be construed accordingly;

“major storm event” means a greater than 1 in 10 year wave event within the offshore Order limits seaward of MHWS in terms of wave height, measured by reference to the height of waves recorded at the nearest wave buoy to the authorised scheme as agreed with the MMO and the WaveNet data published by Cefas, or such other means of measurement as may be agreed with the MMO;

“Marine Noise Registry” means the online database maintained by the Joint Nature Conservation Committee on behalf of the Department for Environment, Food and Rural Affairs that records the spatial and temporal distribution of impulsive noise-generating activities in UK seas in order that they can be analysed to determine whether they may potentially compromise the achievement of good environmental status;

“MCA” means the Maritime and Coastguard Agency;

“MHWS” (mean high water springs) means the highest level which spring tides reach on average over a period of time;

“MLWS” (mean low water springs) means the lowest level which spring tides reach on average over a period of time;

“MMO” means the Marine Management Organisation;

“monopile foundation” means a foundation comprising a large diameter steel or concrete tube or pile driven vertically into the seabed, J-tubes and platforms and may include external structural devices such as bracing members or steel anchor wires and a transition piece;

“notice to mariners” includes any notice to mariners which may be issued by Admiralty, Trinity House, Queen’s harbourmasters, government departments and harbour and pilotage authorities;

“offshore HVAC collector substation” means a structure serving as a collection point for the intra-array electrical circuits and containing equipment for the purpose of transforming the electricity generated at the wind turbine generators to a higher voltage; it may also include a helicopter platform;

“offshore HVDC converter substation” means a structure that contains equipment to convert HVAC electricity to HVDC electricity; it may also include a helicopter platform;

“offshore Order limits” means the limits shown on the offshore works plans and the intertidal

works plans within which the authorised scheme may be carried out whose grid co-ordinates are set out in clause 2(2) of Part 1 of this licence;

“offshore reactive compensation substation” means a structure housing electrical reactors for the purpose of limiting electrical losses in the course of HVAC transmission by providing reactive compensation; it may also include a helicopter platform;

“offshore works plans” means the part of the works plans described as the offshore works plans;

“Order” means the Hornsea Two Offshore Wind Farm Order 2016;

“Order limits” means the limits shown on the works plans within which the authorised project may be carried out;

“suction pile” means a large diameter steel cylinder that is fixed to the base of the foundation, partially penetrates the seabed and remains in place using its weight and hydrostatic pressure differential;

“survey vessel” means a vessel licensed to carry out environmental or engineering surveys;

“Trinity House” means the Corporation of Trinity House of Deptford Strond;

“UK Hydrographic Office” means the Hydrographic Office of the Ministry of Defence or any replacement body or successor to its functions;

“undertaker” means Optimus Wind Limited (company number 07883284) or, to the extent that the benefit of the provisions of the Order and related statutory rights in relation to Work Nos. 2A, 3A, 4A or 5A and such associated development or ancillary works has been transferred under article 35 of the Order to another person, that other person;

“vessel” means every description of vessel, however propelled or moved, and includes a non-displacement craft, a personal watercraft, a seaplane on the surface of the water, a hydrofoil vessel, a hovercraft or any other amphibious vehicle and any other thing constructed or adapted for movement through, in, on or over water that is at the time in, on or over water;

“wind turbine generator” means a structure comprising any or all of a tower, rotor, blades, nacelle and ancillary electrical and other equipment or structures, which may include lighting and a helicopter platform, fixed to a foundation;

“working day” means any day other than a Saturday, Sunday or public holiday in England and Wales;

“Work No. 2A” means the works described as Work No. 2A in clause 2 of Part 1 of this licence;

“Work No. 2B” means up to 6 offshore HVAC collector substations and, in the event that the mode of transmission is HVDC, up to 2 offshore HVDC converter substations together with a network of electrical circuits connecting the structures within Work Nos. 2A and 2B;

“Work No. 3A” means the works described as Work No. 3A in clause 2 of Part 1 of this licence;

“Work No. 3B” means up to 2 offshore reactive compensation substations fixed to the seabed in the event that the mode of transmission is HVAC;

“Work No. 4A” means the works described as Work No. 4A in clause 2 of Part 1 of this licence;

“Work No. 4B” means a marine connection to the shore, including cable and pipeline crossing works which—

- (a) if the mode of transmission is HVAC, consists of up to 8 subsea electrical circuits proceeding from the offshore HVAC collector substations comprised in Work No. 2B via and connecting with the offshore reactive compensation substation comprised in Work No. 3B; or
- (b) if the mode of transmission is HVDC, consists of up to 2 subsea electrical circuits proceeding from the offshore HVDC converter substations comprised in Work No. 2B, and in either case terminating at Work No. 5B;

“Work No. 5A” means the works described as Work No. 5A in clause 2 of Part 1 of this licence;

“Work No. 5B” means a foreshore connection consisting of an extension of the electrical circuits comprised in Work No. 4B, including cable crossing works, crossing under the existing sea wall using a trenchless technique and terminating at the electrical circuit transition joint bays comprising Work No. 6B;

“Work No. 6A” means up to 8 underground electrical circuit transition joint bays in the vicinity of Horseshoe Point in the parish of North Coates in the county of Lincolnshire, housing the connections between the offshore electrical circuits comprised in Work No. 5A and the onshore electrical circuits;

“Work No. 6B” means up to 8 underground electrical circuit transition joint bays in the vicinity of Horseshoe Point in the parish of North Coates in the county of Lincolnshire, housing the connections between the offshore electrical circuits comprised in Work No. 5B and the onshore electrical circuits;

“works plans” means the plans certified as the works plans by the Secretary of State under article 40 of the Order, comprising the offshore works plans, the intertidal works plans and the onshore works plans.

(2) A reference to any statute, order, regulation or similar instrument must be construed as a reference to the statute, order, regulation or instrument as amended by any subsequent statute, order, regulation or instrument or as contained in any subsequent re-enactment.

(3) Unless otherwise indicated—

(a) all times are Greenwich Mean Time (GMT);

(b) all co-ordinates are latitude and longitude degrees, minutes and seconds to 3 decimal places in WGS84 Datum.

(4) Except where otherwise notified in writing by the relevant organisation, the primary point of contact with the organisations listed below and the address for returns and correspondence is—

(a) Marine Management Organisation

Marine Licensing Team

Lancaster House

Hampshire Court

Newcastle-upon-Tyne NE4 7YH

Tel: 0300 123 1032

E-mail: marine.consents@marinemangement.org.uk

(b) Marine Management Organisation (referred to as the “MMO Coastal Office”)

Neville House

Central Riverside

Bell Street

North Shields

Tyne and Wear NE30 1LJ

Tel (24-hour answer phone): 0191 257 4520 or 0191 257 0159

E-mail: northshields@marinemangement.org.uk

(c) Trinity House

Tower Hill

London EC3N 4DH

Tel: 020 7481 6900

(d) The United Kingdom Hydrographic Office

Admiralty Way

Taunton

Somerset TA1 2DN

Tel: 01823 337 900

(e) Maritime and Coastguard Agency

Navigation Safety Branch
Bay 2/04
Spring Place
105 Commercial Road
Southampton SO15 1EG
Tel: 023 8032 9191

- (f) Centre for Environment, Fisheries and Aquaculture Science
Pakefield Road
Lowestoft
Suffolk NR33 0HT
Tel: 01502 562 244
- (g) Natural England
Foss House
Kings Pool
1-2 Peasholme Green
York YO1 7PX
Tel: 0300 060 1911
- (h) Historic Buildings and Monuments Commission for England (referred to as “Historic England”)
Eastgate Court
195-205 High Street
Guildford GU1 3EH
Tel: 01483 252 057
- (i) Environment Agency
Waterside House
Waterside North
Lincoln LN2 5HA
Tel: 03708 506 506.

Details of licensed activities

2.—(1) This licence authorises the undertaker (and any agent or contractor acting on its behalf) to carry out the following licensable marine activities pursuant to section 66(1) of the 2009 Act, subject to the Conditions—

- (a) the deposit at sea of the substances and articles specified in paragraph (3);
- (b) the construction of works in or over the sea and/or on or under the sea bed;
- (c) dredging for the purposes of seabed preparation for foundation works and/or electrical circuit works;
- (d) the removal of sediment samples for the purposes of informing environmental monitoring under this licence during pre-construction, construction and operation;
- (e) the disposal at disposal site reference HU211 of up to 324,454 cubic metres comprising inert material of natural origin produced during construction drilling and seabed preparation for foundation works and/or dredged material produced during seabed preparation for foundation works comprised in Work No. 2A, provided that the combined total volume of inert material of natural origin produced during construction drilling and seabed preparation for foundation works and/or dredged material produced during seabed preparation for foundation works comprised in Work Nos. 2A and 2B disposed of at disposal site reference HU211 must not exceed 324,454 cubic metres;
- (f) the disposal at disposal site reference HU211 of up to 92,048 cubic metres comprising

inert material of natural origin and/or dredged material produced during cable laying preparation works comprised in Work Nos. 2A and 4A, provided that the combined total volume of inert material of natural origin and/or dredged material produced during cable laying preparation works comprised in Work Nos. 2A, 2B, 4A and 4B disposed of at disposal site reference HU211 must not exceed 92,048 cubic metres;

- (g) the disposal at disposal site reference HU209 of up to 38,485 cubic metres comprising inert material of natural origin produced during construction drilling and seabed preparation for foundation works and/or dredged material produced during seabed preparation for foundation works comprised in Work No. 3A, provided that the combined total volume of inert material of natural origin produced during construction drilling and seabed preparation for foundation works and/or dredged material produced during seabed preparation for foundation works comprised in Work Nos. 3A and 3B disposed of at disposal site reference HU209 must not exceed 38,485 cubic metres;
- (h) the disposal at disposal site reference HU209 of up to 1,269,000 cubic metres comprising inert material of natural origin and/or dredged material produced during cable laying preparation works comprised in Work No. 4A, provided that the combined total volume of inert material of natural origin and/or dredged material produced during cable laying preparation works comprised in Work Nos. 4A and 4B disposed of at disposal site reference HU209 must not exceed 1,269,000 cubic metres;
- (i) the disposal at disposal site reference HU210 of up to 131,000 cubic metres comprising inert material of natural origin and/or dredged material produced during cable laying preparation works comprised in Work No. 4A, provided that the combined total volume of inert material of natural origin and/or dredged material produced during cable laying preparation works comprised in Work Nos. 4A and 4B disposed of at disposal site reference HU210 must not exceed 131,000 cubic metres; and
- (j) the removal of the substances and articles specified in paragraph (3).

(2) The activities are authorised in relation to the construction, maintenance and operation of—

Work No. 2A — Up to 3 offshore HVAC collector substations and, in the event that the mode of transmission is HVDC, up to 2 offshore HVDC converter substations together with a network of electrical circuits connecting the structures within Work Nos. 2A and 2B, provided that—

- (a) the combined total of offshore HVAC collector substations constructed in whole or in part within Work Nos. 2A and 2B must not exceed 3; and
- (b) the combined total of offshore HVDC converter substations constructed in whole or in part within Work Nos. 2A and 2B must not exceed 2.

Co-ordinates for wind farm area (limits of deviation for Work No. 2A)—

<i>Point</i>	<i>Latitude</i>	<i>Longitude</i>
1	54° 0' 31.626" N	1° 26' 19.993" E
2	54° 0' 18.479" N	1° 38' 37.320" E
3	54° 0' 15.768" N	1° 40' 21.864" E
4	53° 59' 36.924" N	2° 3' 45.936" E
5	53° 57' 24.509" N	2° 6' 6.700" E
6	53° 57' 12.481" N	2° 4' 32.376" E
7	53° 56' 46.586" N	2° 5' 4.031" E
8	53° 56' 16.303" N	2° 1' 15.269" E
9	53° 55' 22.663" N	2° 2' 14.219" E
10	53° 55' 2.525" N	1° 59' 45.776" E
11	53° 55' 35.429" N	1° 59' 20.944" E
12	53° 55' 8.162" N	1° 56' 10.619" E
13	53° 55' 23.329" N	1° 55' 20.262" E
14	53° 55' 37.592" N	1° 53' 38.108" E
15	53° 55' 31.318" N	1° 52' 54.282" E
16	53° 56' 22.870" N	1° 51' 57.409" E

17	53° 55' 46.445" N	1° 47' 47.796" E
<i>Point</i>	<i>Latitude</i>	<i>Longitude</i>
18	53° 58' 42.179" N	1° 44' 31.880" E
19	53° 58' 17.828" N	1° 41' 46.795" E
20	53° 56' 29.670" N	1° 43' 45.592" E
21	53° 56' 3.228" N	1° 41' 0.143" E
22	53° 55' 9.293" N	1° 39' 52.024" E
23	53° 50' 5.118" N	1° 38' 58.430" E
24	53° 50' 7.210" N	1° 26' 59.953" E

Work No. 3A — In the event that the mode of transmission is HVAC, up to 2 offshore reactive compensation substations fixed to the seabed at latitude point 53° 37' 54.291" N and longitude point 0° 55' 59.731" E and at latitude point 53° 38' 9.295" N and longitude point 0° 55' 49.576" E subject to deviation within the following limits of deviation, provided that the combined total of offshore reactive compensation substations constructed in whole or in part within Work Nos. 3A and 3B must not exceed 2—

<i>Point</i>	<i>Latitude</i>	<i>Longitude</i>
1	53° 38' 1.918" N	0° 55' 55.183" E
2	53° 38' 2.362" N	0° 55' 58.099" E
3	53° 38' 2.438" N	0° 56' 0.367" E
4	53° 38' 2.185" N	0° 56' 3.394" E
5	53° 38' 1.735" N	0° 56' 5.560" E
6	53° 38' 1.074" N	0° 56' 7.567" E
7	53° 37' 59.900" N	0° 56' 9.900" E
8	53° 37' 58.446" N	0° 56' 11.733" E
9	53° 37' 57.216" N	0° 56' 12.723" E
10	53° 37' 55.456" N	0° 56' 13.477" E
11	53° 37' 54.094" N	0° 56' 13.597" E
12	53° 37' 52.296" N	0° 56' 13.156" E
13	53° 37' 51.011" N	0° 56' 12.387" E
14	53° 37' 49.821" N	0° 56' 11.266" E
15	53° 37' 48.441" N	0° 56' 9.279" E
16	53° 37' 47.358" N	0° 56' 6.825" E
17	53° 37' 46.776" N	0° 56' 4.750" E
18	53° 37' 46.409" N	0° 56' 2.540" E
19	53° 37' 46.268" N	0° 56' 0.258" E
20	53° 37' 46.357" N	0° 55' 57.969" E

21	53° 372	0° 552
22	46.8283 N	55.0173 E
23	53° 372	0° 552
24	47.6783 N	52.3163 E
25	53° 372	0° 552
26	48.5403 N	50.5383 E
27	53° 372	0° 552
28	49.5673 N	49.0293 E
29	53° 372	0° 552
30	51.1433 N	47.5093 E
31	53° 372	0° 552
31	52.8813 N	46.6183 E
32	53° 372	0° 552

<i>Point</i>	<i>Latitude</i>	<i>Longitude</i>
33	53° 38' 1.792" N	0° 55' 54.657" E
34	53° 38' 1.346" N	0° 55' 51.708" E
35	53° 38' 1.300" N	0° 55' 48.665" E
36	53° 38' 1.657" N	0° 55' 45.681" E
37	53° 38' 2.399" N	0° 55' 42.906" E
38	53° 38' 3.490" N	0° 55' 40.477" E
39	53° 38' 5.257" N	0° 55' 38.112" E
40	53° 38' 6.910" N	0° 55' 36.872" E
41	53° 38' 8.684" N	0° 55' 36.281" E
42	53° 38' 10.939" N	0° 55' 36.497" E
43	53° 38' 12.244" N	0° 55' 37.130" E
44	53° 38' 13.467" N	0° 55' 38.122" E
45	53° 38' 15.233" N	0° 55' 40.491" E
46	53° 38' 16.080" N	0° 55' 42.277" E
47	53° 38' 16.738" N	0° 55' 44.277" E
48	53° 38' 17.187" N	0° 55' 46.433" E
49	53° 38' 17.441" N	0° 55' 49.447" E
50	53° 38' 17.365" N	0° 55' 51.746" E
51	53° 38' 16.908" N	0° 55' 54.716" E
52	53° 38' 16.068" N	0° 55' 57.438" E
53	53° 38' 15.210" N	0° 55' 59.234" E
54	53° 38' 13.812" N	0° 56' 1.201" E
55	53° 38' 12.609" N	0° 56' 2.302" E
56	53° 38' 10.868" N	0° 56' 3.211" E
57	53° 38' 9.507" N	0° 56' 3.449" E
58	53° 38' 8.141" N	0° 56' 3.296" E
59	53° 38' 6.381" N	0° 56' 2.496" E
60	53° 38' 4.772" N	0° 56' 1.053" E
61	53° 38' 3.714" N	0° 55' 59.591" E
62	53° 38' 2.560" N	0° 55' 57.217" E

Work No. 4A — A marine connection to the shore, including cable and pipeline crossing works which—

- (a) if the mode of transmission is HVAC, consists of up to 8 subsea electrical circuits proceeding from the offshore HVAC collector substations comprised in Work No. 2A via and connecting with the offshore reactive compensation substations comprised in Work No. 3A; or
- (b) if the mode of transmission is HVDC, consists of up to 2 subsea electrical circuits proceeding from the offshore HVDC converter substations comprised in Work No. 2A,

and in either case terminating at Work No. 5A, provided that the combined total of electrical circuits constructed in whole or in part within Work Nos. 4A and 4B must not exceed, in the event that the mode of transmission is HVDC, 2, and in the event that the mode of transmission is HVAC, 8.

Principal co-ordinates for marine export cable area (limits of deviation for Work No. 4A) whose full co-ordinates are set out in the offshore works plans—

<i>Point</i>	<i>Latitude</i>	<i>Longitude</i>
1	54° 02'	1° 262'

<i>Point</i>	<i>Latitude</i>	<i>Longitude</i>
2	54° 0' 18.479" N	1° 38' 37.320" E
3	54° 0' 15.768" N	1° 40' 21.864" E
4	53° 59' 36.924" N	2° 3' 45.936" E
5	53° 57' 24.509" N	2° 6' 6.700" E
6	53° 57' 12.481" N	2° 4' 32.376" E
7	53° 56' 46.586" N	2° 5' 4.031" E
8	53° 56' 16.303" N	2° 1' 15.269" E
9	53° 55' 22.663" N	2° 2' 14.219" E
10	53° 55' 2.525" N	1° 59' 45.776" E
11	53° 55' 35.429" N	1° 59' 20.944" E
12	53° 55' 8.162" N	1° 56' 10.619" E
13	53° 55' 23.329" N	1° 55' 20.262" E
14	53° 55' 37.592" N	1° 53' 38.108" E
15	53° 55' 31.318" N	1° 52' 54.282" E
16	53° 56' 22.870" N	1° 51' 57.409" E
17	53° 55' 46.445" N	1° 47' 47.796" E
18	53° 58' 42.179" N	1° 44' 31.880" E
19	53° 58' 17.828" N	1° 41' 46.795" E
20	53° 56' 29.670" N	1° 43' 45.592" E
21	53° 56' 3.228" N	1° 41' 0.143" E
22	53° 55' 9.293" N	1° 39' 52.024" E
23	53° 50' 5.118" N	1° 38' 58.430" E
24	53° 46' 7.286" N	1° 38' 16.673" E
25	53° 46' 4.677" N	1° 37' 22.711" E
27	53° 44' 47.813" N	1° 28' 38.495" E
32	53° 44' 47.743" N	1° 27' 26.607" E
34	53° 44' 36.477" N	1° 25' 23.743" E
141	53° 42' 30.629" N	1° 15' 58.654" E
152	53° 42' 28.182" N	1° 14' 34.895" E
264	53° 39' 35.134" N	1° 6' 29.785" E
316	53° 38' 17.582" N	1° 2' 16.928" E
447	53° 36' 54.624" N	0° 51' 31.062" E
449	53° 36' 15.738" N	0° 48' 52.425" E
513	53° 35' 21.166" N	0° 43' 44.242" E
515	53° 31' 50.425" N	0° 40' 55.898" E
516	53° 31' 38.281" N	0° 40' 8.340" E
521	53° 28' 36.676" N	0° 20' 3.846" E
532	53° 31' 43.122" N	0° 12' 21.707" E
533	53° 30' 57.432" N	0° 5' 59.890" E
534	53° 31' 11.028" N	0° 5' 42.539" E
535	53° 30' 42.954" N	0° 5' 10.787" E
536	53° 30' 42.180" N	0° 5' 9.912" E
537	53° 30' 46.588" N	0° 4' 55.345" E
538	53° 302	0° 42 59.5153 E
539	52.2453 N	0° 52 24.0493 E
540	53° 312	0° 52 27.0433 E
580	25.5143 N	0° 122

<i>Point</i>	<i>Latitude</i>	<i>Longitude</i>
763	53° 29' 11.523" N	0° 20' 5.981" E
1001	53° 31' 28.589" N	0° 35' 44.348" E
1002	53° 32' 0.855" N	0° 37' 42.781" E
1003	53° 32' 17.793" N	0° 39' 31.883" E
1004	53° 32' 35.749" N	0° 39' 45.737" E
1005	53° 33' 8.117" N	0° 39' 47.665" E
1006	53° 34' 28.861" N	0° 41' 27.396" E
1007	53° 35' 42.522" N	0° 42' 37.802" E
1010	53° 36' 25.571" N	0° 43' 54.129" E
1081	53° 37' 2.569" N	0° 47' 31.846" E
1083	53° 37' 30.986" N	0° 49' 14.023" E
1086	53° 37' 29.991" N	0° 51' 27.606" E
1087	53° 37' 36.904" N	0° 52' 22.841" E
1111	53° 38' 45.654" N	0° 57' 1.237" E
1143	53° 39' 16.652" N	1° 1' 1.016" E
1149	53° 39' 42.566" N	1° 1' 40.167" E
1155	53° 41' 20.037" N	1° 6' 45.836" E
1157	53° 42' 59.843" N	1° 14' 18.127" E
1164	53° 43' 0.151" N	1° 15' 37.960" E
1165	53° 44' 0.963" N	1° 20' 9.157" E
1166	53° 49' 6.492" N	1° 25' 51.682" E
1167	53° 50' 7.210" N	1° 26' 59.953" E

Work No. 5A — A foreshore connection consisting of an extension of the electrical circuits comprised in *Work No. 4A*, including cable crossing works, crossing under the existing sea wall using a trenchless technique and terminating at the electrical circuit transition joint bays (*Work No. 6A*).

And in connection with *Work Nos. 2A, 3A, 4A and 5A*, further associated development as may be necessary or expedient in connection with the authorised scheme within the Order limits and is within the scope of the environmental impact assessment recorded in the environmental statement.

And in connection with *Work Nos. 2A, 3A, 4A and 5A*, ancillary works consisting of works and operations within the Order limits comprising temporary anchorage of vessels and buoys, beacons, fenders and other navigational warning or ship impact protection works.

(3) The substances or articles authorised for deposit at sea and removal are—

- (a) iron and steel;
- (b) stone and rock;
- (c) concrete;
- (d) sand and gravel;
- (e) plastic and synthetic; and
- (f) material extracted from within the offshore Order limits during construction drilling and seabed preparation for foundation works and cable sandwave preparation works.

(4) The grid co-ordinates for disposal site reference HU211 are—

<i>Point</i>	<i>Latitude</i>	<i>Longitude</i>
1	54° 02	1° 262
2	31.6263 N	19.9933 E
3	54° 02	1° 382

<i>Point</i>	<i>Latitude</i>	<i>Longitude</i>
4	53° 59' 36.924" N	2° 3' 45.936" E
5	53° 57' 24.509" N	2° 6' 6.700" E
6	53° 57' 12.481" N	2° 4' 32.376" E
7	53° 56' 46.586" N	2° 5' 4.031" E
8	53° 56' 16.303" N	2° 1' 15.269" E
9	53° 55' 22.663" N	2° 2' 14.219" E
10	53° 55' 2.525" N	1° 59' 45.776" E
11	53° 55' 35.429" N	1° 59' 20.944" E
12	53° 55' 8.162" N	1° 56' 10.619" E
13	53° 55' 23.329" N	1° 55' 20.262" E
14	53° 55' 37.592" N	1° 53' 38.108" E
15	53° 55' 31.318" N	1° 52' 54.282" E
16	53° 56' 22.870" N	1° 51' 57.409" E
17	53° 55' 46.445" N	1° 47' 47.796" E
18	53° 58' 42.179" N	1° 44' 31.880" E
19	53° 58' 17.828" N	1° 41' 46.795" E
20	53° 56' 29.670" N	1° 43' 45.592" E
21	53° 56' 3.228" N	1° 41' 0.143" E
22	53° 55' 9.293" N	1° 39' 52.024" E
23	53° 50' 5.118" N	1° 38' 58.430" E
24	53° 50' 7.210" N	1° 26' 59.953" E

(5) The grid co-ordinates for disposal site reference HU209 are—

<i>Point</i>	<i>Latitude</i>	<i>Longitude</i>
A	53° 36' 40.490" N	0° 50' 41.571" E
B	53° 36' 54.624" N	0° 51' 31.062" E
C	53° 37' 22.048" N	0° 55' 08.301" E
D	53° 37' 38.643" N	0° 57' 17.843" E
E	53° 37' 56.680" N	0° 59' 39.524" E
F	53° 38' 15.917" N	1° 02' 08.601" E
G	53° 39' 35.134" N	1° 06' 29.785" E
H	53° 41' 22.549" N	1° 11' 30.804" E
I	53° 42' 14.598" N	1° 10' 44.250" E
J	53° 41' 19.717" N	1° 06' 44.682" E
K	53° 39' 41.954" N	1° 01' 38.714" E
L	53° 39' 16.652" N	1° 01' 01.016" E
M	53° 38' 45.654" N	0° 57' 01.237" E
N	53° 37' 36.904" N	0° 52' 22.841" E
O	53° 37' 29.991" N	0° 51' 27.606" E
P	53° 37' 30.124" N	0° 50' 57.716" E

(6) The grid co-ordinates for disposal site reference HU210 are—

<i>Point</i>	<i>Latitude</i>	<i>Longitude</i>
W	53° 43' 14.348" N	1° 19' 13.563" E
X	53° 43' 52.989" N	1° 22' 07.248" E

<i>Point</i>	<i>Latitude</i>	<i>Longitude</i>
Y	53° 44' 22.957" N	1° 21' 47.484" E
Z	53° 43' 44.110" N	1° 18' 53.902" E

(7) Section 72 of the 2009 Act applies to this licence, except that subsections (7) and (8) relating to the transfer of the licence apply only to a transfer not falling within article 35 of the Order.

Maintenance of authorised project

3.—(1) The undertaker may at any time maintain the authorised project, except to the extent that this licence or an agreement made under this licence provides otherwise.

(2) No maintenance works whose likely effects on the environment require to be assessed in accordance with the EIA Regulations and are not assessed in the environmental statement may be carried out, unless otherwise approved by the MMO.

(3) Where the MMO's approval is required under paragraph (2), approval may be given only where it has been demonstrated to the satisfaction of the MMO that the approval sought is unlikely to give rise to any materially new or materially different environmental effects from those assessed in the environmental statement.

Duration

4. This licence remains in force until the authorised scheme has been decommissioned in accordance with a programme approved by the Secretary of State under section 106 of the Energy Act 2004, including any modification to the programme under section 108, and the completion of the programme has been confirmed by the Secretary of State in writing.

PART 2

Licence conditions

Design parameters

- 1.—(1) No offshore HVAC collector substation forming part of Work No. 2A may—
 - (a) exceed 64 metres in height above LAT;
 - (b) have a platform that at its greatest extent exceeds 6,300 square metres in area or 90 metres in width.
- (2) No offshore HVDC converter substation forming part of Work No. 2A may—
 - (a) exceed 110 metres in height above LAT;
 - (b) have a platform that at its greatest extent exceeds 16,200 square metres in area or 180 metres in width.
- (3) The offshore reactive compensation substation comprised in Work No. 3A must not—
 - (a) exceed 64 metres in height above LAT; or
 - (b) have a platform that at its greatest extent exceeds 3,600 square metres in area or 60 metres in width.
- (4) The diameter of the electrical cables comprising the electrical circuits must not exceed—
 - (a) within Work No. 2A, 300 millimetres;
 - (b) within Work Nos. 4A and 5A—
 - (i) 190 millimetres, where the mode of transmission is HVDC; and
 - (ii) 300 millimetres, where the mode of transmission is HVAC.
- (5) The combined total length of the connections in the form of electrical circuits between the structures comprised in Work Nos. 2A and 2B must not exceed 300 kilometres.
- (6) The combined total length of the electrical circuits comprised in Work Nos. 4A, 4B, 5A and 5B seaward of MHWS must not exceed 1,200 kilometres.
- (7) The combined total area of cable protection for the electrical circuits comprising Work Nos. 2A and 2B must not exceed 546,000 square metres.
- (8) The combined total area of cable protection for the electrical circuits comprising Work Nos. 4A and 4B located outside the Humber Estuary Special Area of Conservation must not exceed 2,055,200 square metres.
- (9) The combined total area of cable protection for the electrical circuits comprising Work Nos. 4A and 4B located within the Humber Estuary Special Area of Conservation must not exceed 44,800 square metres.
- (10) The combined total volume of cable protection for the electrical circuits comprising Work Nos. 2A and 2B must not exceed 312,000 cubic metres.
- (11) The combined total volume of cable protection for the electrical circuits comprising Work Nos. 4A and 4B located outside the Humber Estuary Special Area of Conservation must not exceed 1,174,400 cubic metres.
- (12) The combined total volume of cable protection for the electrical circuits comprising Work Nos. 4A and 4B located within the Humber Estuary Special Area of Conservation must not exceed 25,600 cubic metres.
- (13) The electrical circuits comprised in Work Nos. 2A and 4A must be installed by use of, or a combination of, ploughing, trenching, jetting, rock-cutting, dredging, surface laying with post-lay burial, and where ground conditions make burial impracticable, by surface laying.
- (14) The electrical circuits comprised in Work No. 5A must be installed by use of, or a combination of, ploughing, trenching and jetting, with the exception that, where the electrical circuits comprised in Work No. 5A cross under the existing sea wall, they must be installed using a trenchless technique.

2.—(1) The undertaker must in fixing to the seabed any structures comprised in Work Nos. 2A and 3A use one of the following methods—

- (a) monopile foundations;
- (b) jacket foundations supported by piles; or
- (c) gravity base foundations.

(2) The undertaker must not use the monopile foundation method or any other method that includes braced monopiles to fix to the seabed any offshore HVDC converter substation.

(3) The following parameters apply in respect of the foundation methods used to fix offshore HVAC collector substations to the seabed—

- (a) where monopile foundations are used—
 - (i) the area occupied by the foundations and the scour protection for each individual structure must not exceed 1,963 square metres;
 - (ii) the diameter of each foundation must not exceed 10 metres;
- (b) where jacket foundations (driven/drilled piles) are used—
 - (i) the area occupied by the foundations and the scour protection for each individual structure must not exceed 1,924 square metres;
 - (ii) the number of piles per jacket must not exceed 8;
 - (iii) the diameter of each pile must not exceed 3.5 metres;
- (c) where jacket foundations (suction piles) are used—
 - (i) the area occupied by the foundations and the scour protection for each individual structure must not exceed 12,723 square metres;
 - (ii) the number of piles per jacket must not exceed 8;
 - (iii) the diameter of each pile must not exceed 15 metres;
- (d) where gravity base foundations are used—
 - (i) the area occupied by the foundations and the scour protection for each individual structure must not exceed 6,362 square metres;
 - (ii) the seabed levelling diameter must not exceed 70 metres;
 - (iii) the cone diameter must not exceed 50 metres at its base.

(4) The following parameters apply in respect of the foundation methods used to fix offshore HVDC converter substations to the seabed—

- (a) where jacket foundations (driven/drilled piles) are used—
 - (i) the area occupied by the foundations and the scour protection for each individual structure must not exceed 17,318 square metres;
 - (ii) the number of jacket foundations per topside must not exceed 4;
 - (iii) the number of piles per topside must not exceed 72;
 - (iv) the number of piles per jacket must not exceed 18;
 - (v) the diameter of each pile must not exceed 3.5 metres;
- (b) where jacket foundations (suction piles) are used—
 - (i) the area occupied by the foundations and the scour protection for each individual structure must not exceed 50,894 square metres;
 - (ii) the number of jacket foundations per topside must not exceed 4;
 - (iii) the number of piles per topside must not exceed 32;
 - (iv) the number of piles per jacket must not exceed 8;
 - (v) the diameter of each pile must not exceed 15 metres;
- (c) where gravity base foundations are used—
 - (i) the area occupied by the foundations and the scour protection for each individual structure must not exceed 27,300 square metres;

- (ii) the number of pontoons for each individual structure must not exceed 3;
 - (iii) the pontoons must not exceed 170 metres in length or 35 metres in width.
- (5) The following parameters apply in respect of the foundation methods used to fix the offshore reactive compensation substation to the seabed—
- (a) where monopile foundations are used—
 - (i) the area occupied by the foundations and the scour protection must not exceed 1,963 square metres;
 - (ii) the diameter of each foundation must not exceed 10 metres;
 - (b) where jacket foundations (driven/drilled piles) are used—
 - (i) the area occupied by the foundations and the scour protection must not exceed 1,414 square metres;
 - (ii) the number of piles per jacket must not exceed 8;
 - (iii) the diameter of each pile must not exceed 3 metres;
 - (c) where jacket foundations (suction piles) are used—
 - (i) the area occupied by the foundations and the scour protection must not exceed 6,362 square metres;
 - (ii) the number of piles per jacket must not exceed 4;
 - (iii) the diameter of each pile must not exceed 15 metres;
 - (d) where gravity base foundations are used—
 - (i) the area occupied by the foundations and the scour protection for each individual structure must not exceed 6,362 square metres;
 - (ii) the seabed levelling diameter must not exceed 70 metres;
 - (iii) the cone diameter must not exceed 50 metres at its base.

Navigational practice, safety and emergency response

3.—(1) No part of the authorised scheme seaward of MHWS may commence until the MMO, in consultation with the MCA, has given written approval for an emergency response co-operation plan which includes full details of the emergency co-operation plans for the construction, operation and decommissioning phases of that part of the authorised scheme in accordance with the MCA recommendations contained within MGN 543 “Offshore Renewable Energy Installations (OREIs) – Guidance on UK Navigational Practice, Safety and Emergency Response Issues”.

(2) No part of the authorised scheme seaward of MHWS may commence until the MMO, in consultation with the MCA, has confirmed in writing that the undertaker has taken into account and, so far as is applicable to that stage of the development, adequately addressed all MCA recommendations as appropriate to the authorised scheme contained within MGN 543 “Offshore Renewable Energy Installations (OREIs) – Guidance on UK Navigational Practice, Safety and Emergency Response Issues” (including its annexes).

(3) The emergency response co-operation plan must be implemented as approved, unless otherwise agreed in writing by the MMO, in consultation with the MCA.

Aids to navigation

4.—(1) The undertaker must during the whole period from the start of construction of the authorised scheme seaward of MHWS to the completion of decommissioning—

- (a) exhibit such lights, marks, sounds, signals and other aids to navigation and take such other steps for the prevention of danger to navigation as Trinity House may from time to time direct;
- (b) colour all structures in the authorised scheme as directed by Trinity House;
- (c) keep Trinity House and the MMO informed of progress of the authorised scheme seaward of MHWS including—

- (i) notice of commencement of construction of the authorised scheme within 24 hours of commencement having occurred;
 - (ii) notice within 24 hours of any aids to navigation being established by the undertaker; and
 - (iii) notice within 5 working days of completion of construction of the authorised scheme;
 - (d) submit reports to Trinity House detailing the working condition of aids to navigation quarterly, or as requested by Trinity House;
 - (e) notify Trinity House and the MMO of any failure of the aids to navigation and the timescales and plans for remedying such failures as soon as possible and no later than 24 hours following the undertaker becoming aware of any such failure.
- (2) Except as otherwise required by Trinity House under paragraph (1), the undertaker must colour all structures comprised in Work Nos. 2A and 3A yellow (colour code RAL 1023) from at least highest astronomical tide to a height as directed by Trinity House.
- (3) Unless the MMO otherwise directs, the undertaker must paint the remainder of the structures submarine grey (colour code RAL 7035).

Notifications and inspections

- 5.—(1) The undertaker must ensure that—
- (a) a copy of this licence and any subsequent amendments or revisions to it are provided to—
 - (i) all agents and contractors notified to the MMO in accordance with the Conditions; and
 - (ii) the masters and transport managers responsible for the vessels notified to the MMO in accordance with the Conditions;
 - (b) within 28 days of receipt of a copy of this licence, the persons referred to in subparagraph (a) provide a completed confirmation form to the MMO confirming their understanding of the terms and conditions of this licence.
- (2) Only the persons and vessels notified to the MMO in accordance with Condition 11 are permitted to carry out the licensed activities.
- (3) Copies of this licence must also be available for inspection at the following locations—
- (a) the undertaker’s registered address;
 - (b) any site office located at or adjacent to the construction site and used by the undertaker or its agents and contractors responsible for the loading, transportation or deposit for the authorised deposits; and
 - (c) on board each vessel or at the office of any transport manager with responsibility for vessels from which authorised deposits are to be made.
- (4) The documents referred to in paragraph (1)(a) must be available for inspection by an enforcement officer at the locations set out in paragraph (3) at any time.
- (5) The undertaker must provide access, and if necessary appropriate transportation, to the offshore construction site or any other associated works or vessels to facilitate any inspection that the MMO considers necessary to inspect the works during construction and operation of the authorised scheme.
- (6) The undertaker must inform the MMO Marine Licensing Team and the MMO Coastal Office in writing at least 5 working days before the commencement of the licensed activities or any part of them.
- (7) The Kingfisher Information Service of Seafish must be informed by email of details of the vessel routes, timings and locations relating to the construction of the authorised scheme or relevant part to kingfisher@seafish.co.uk—
- (a) at least 2 weeks before the construction of the authorised scheme or relevant part, for inclusion in the Kingfisher Fortnightly Bulletin and offshore hazard awareness data; and
 - (b) on completion of the construction of the authorised scheme or relevant part.

Confirmation of notification must be provided to the MMO within 5 working days of notification to the Kingfisher Information Service of Seafish.

(8) The undertaker must ensure that a notice to mariners is issued at least 10 working days before the commencement of the licensed activities advising of the commencement of licensed activities within the offshore Order limits and the expected vessel routes from the local service ports to the location of the works comprised within the authorised scheme.

(9) The undertaker must ensure that the notices to mariners are updated and reissued at weekly intervals during construction activities and at least 5 days before any planned operation and maintenance works and supplemented with VHF radio broadcasts agreed with the MCA in accordance with the construction and monitoring programme approved under Condition 8(2)(a). Copies of all notices must be provided to the MMO within 10 working days of issue.

(10) The undertaker must notify—

- (a) the UK Hydrographic Office of commencement (within 2 weeks), progress and completion (within 2 weeks) of the authorised scheme in order that all necessary amendments to nautical charts are made, and the undertaker must send a copy of such notifications to the MMO; and
- (b) the Defence Geographic Centre (at least 4 weeks before) of the commencement of the authorised scheme, and of the progress and completion (within 2 weeks) of the authorised scheme, in order that all necessary amendments to aviation charts are made.

(11) In case of damage to, or destruction or decay of, the authorised scheme or any part of it seaward of MHWS, the undertaker must as soon as reasonably practicable, and no later than 24 hours following the undertaker becoming aware of any such damage, destruction or decay, notify the MMO, Trinity House, MCA and the UK Hydrographic Office.

(12) In the event that the Marine Noise Registry has gone live before the commencement of impact pile driving—

- (a) the undertaker must submit details of the expected location, start and end dates of impact pile driving to the Marine Noise Registry before the commencement of the impact pile driving; and
- (b) the undertaker must notify the MMO of the successful submission of the details required under sub-paragraph (a) within 7 days of the submission.

(13) In the event that the Marine Noise Registry has gone live at the time of impact pile driving—

- (a) the undertaker must submit the exact locations and dates of impact pile driving to the Marine Noise Registry at 6-month intervals from the commencement of impact pile driving until the completion of impact pile driving. The final data must be submitted within 12 weeks of completion of impact pile driving; and
- (b) the undertaker must notify the MMO of the successful submission of the details required under sub-paragraph (a) within 7 days of the submission.

Chemicals, drilling and debris

6.—(1) All chemicals used in the construction of the authorised scheme must be selected from the list of notified chemicals approved for use by the offshore oil and gas industry under the Offshore Chemicals Regulations 2002, unless otherwise agreed in writing by the MMO.

(2) The undertaker must ensure that any coatings or treatments are suitable for use in the marine environment and are used in accordance with guidelines approved by Health and Safety Executive or the Environment Agency Pollution Prevention Guidelines.

(3) The storage, handling, transport and use of fuels, lubricants, chemicals and other substances must be undertaken so as to prevent releases into the marine environment including bunding of 110% of the total volume of all reservoirs and containers.

(4) Where foundation drilling works are proposed, in the event that any system other than water based mud is proposed, the MMO's written approval in relation to the proposed disposal of any arisings must be obtained before the drilling commences, which disposal may also require a marine licence.

(5) The undertaker must ensure that, where practicable, any debris arising from the construction of the authorised scheme or temporary works placed seaward of MHWS is removed by a date no later than 28 days following the undertaker becoming aware of the debris after the completion of the authorised scheme (or by such later date as may be agreed in writing by the MMO). In the event that the debris cannot practicably be removed, the undertaker must notify the MMO, Trinity House and the MCA within 7 days of becoming aware that the debris cannot practicably be removed.

(6) In the event that the undertaker becomes aware that any of the materials on the audit sheet cannot be accounted for, it must notify the MMO within 24 hours where possible, and in any event within 5 days of becoming aware using the dropped object procedure form. On receipt of the dropped object procedure form, the MMO may require relevant surveys to be carried out by the undertaker (such as side-scan sonar) if reasonable to do so. Local fishermen must be invited to send a representative to be present during the survey. The MMO may require any new obstructions associated with the authorised scheme to be removed from the seabed at the undertaker's expense if reasonable to do so.

(7) All debris arising from the operation and maintenance of the authorised scheme must be reported to the MMO using the dropped object procedure form within 24 hours where possible, and in any event within 5 days of the undertaker becoming aware of the incident. On receipt of the dropped object procedure form, the MMO may require relevant surveys to be carried out by the undertaker (such as side-scan sonar) if reasonable to do so and any new obstructions associated with the authorised scheme to be removed from the seabed at the undertaker's expense if reasonable to do so.

(8) The undertaker must inform the MMO of the location and quantities of inert material and dredged material disposed of each month under this licence at each of disposal site reference HU211, disposal site reference HU209 and disposal site reference HU210, by submission of a disposal return for each disposal area by 31st January each year for disposals occurring during the months July to December inclusive of the preceding year, and by 31st July each year for disposals occurring during the months January to June inclusive of that year.

(9) The undertaker must ensure that only—

- (a) inert material of natural origin and drilling mud, produced during construction drilling and seabed preparation for foundation works comprised in Work No. 2A;
- (b) dredged material produced during seabed preparation for foundation works comprised in Work No. 2A; and
- (c) inert material of natural origin and dredged material produced during cable laying preparation works comprised in Work No. 2A and Work No. 4A,

is disposed of at disposal site reference HU211.

(10) The undertaker must ensure that only—

- (a) inert material of natural origin and drilling mud, produced during construction drilling and seabed preparation for foundation works comprised in Work No. 3A;
- (b) dredged material produced during seabed preparation for foundation works comprised in Work No. 3A; and
- (c) inert material of natural origin and dredged material produced during cable laying preparation works comprised in Work No. 4A,

is disposed of at disposal site reference HU209.

(11) The undertaker must ensure that only inert material of natural origin and dredged material produced during cable laying preparation works comprised in Work No. 4A is disposed of at disposal site reference HU210.

(12) The undertaker must ensure that no waste concrete slurry or wash water from concrete or cement works are discharged into the marine environment. Concrete, cement mixing and washing areas must be contained to prevent run-off entering the water through the freeing ports.

(13) The undertaker must ensure that any rock material used in the construction of the authorised scheme is from a recognised source, free from contaminants and containing minimal fines.

(14) The undertaker must notify the MMO within 48 hours of the completion of the final authorised disposal at disposal site reference HU211.

(15) The undertaker must notify the MMO within 48 hours of the completion of the final authorised disposal at disposal site reference HU209.

(16) The undertaker must notify the MMO within 48 hours of the completion of the final authorised disposal at disposal site reference HU210.

Force majeure

7. If, due to stress of weather or any other cause, the master of a vessel determines that it is necessary to deposit—

- (a) authorised deposits outside of the offshore Order limits or disposal site references HU209, HU210 or HU211; or
- (b) unauthorised deposits within or outside of the offshore Order limits or disposal site references HU209, HU210 or HU211,

because the safety of human life and/or of the vessel is threatened, full details of the circumstances of the deposit must be notified to the MMO within 48 hours.

Pre-construction plans and documentation

8.—(1) The licensed activities may not commence until a plan setting out proposed details of the authorised scheme and including the following (insofar as relevant to that activity or phase of activity) has been submitted to and approved in writing by the MMO following appropriate consultation with Trinity House and the MCA—

- (a) number, dimensions, specification, foundation types and depth for each offshore HVAC collector substation, offshore HVDC converter substation and offshore reactive compensation substation;
- (b) grid co-ordinates of the centre point of the proposed location for each offshore HVAC collector substation, offshore HVDC converter substation and offshore reactive compensation substation, subject to any micro-siting required due to anthropological constraints, environmental constraints or difficult ground conditions;
- (c) proposed layout of all cables, subject to any micro-siting required due to anthropological constraints, environmental constraints or difficult ground conditions; and
- (d) location and specification of all other aspects of the authorised scheme, subject to any micro-siting required due to anthropological constraints, environmental constraints or difficult ground conditions.

(2) The licensed activities, or any phase of those activities, may not commence until a code of construction practice incorporating the following (insofar as relevant to that activity or phase of activity) has been submitted to and approved in writing by the MMO—

- (a) a construction and monitoring programme, to include details of—
 - (i) the proposed construction start date;
 - (ii) proposed timings for mobilisation of plant, delivery of materials and installation works; and
 - (iii) proposed pre-construction surveys, baseline report format and content, construction monitoring, post-construction monitoring and related reporting in accordance with Conditions 13, 14 and 15. The pre-construction survey programme and all pre-construction survey methodologies must be submitted to the MMO for written approval by the MMO in consultation with the relevant statutory nature conservation body at least 4 months before the commencement of any survey works detailed within;
- (b) a construction method statement in accordance with the environmental statement, including details of—
 - (i) foundation installation, including any seabed preparation, drilling and disposal of arisings methods;

- (ii) installation of offshore HVAC collector substations, offshore HVDC converter substations and offshore reactive compensation substations, including any seabed preparation and scour protection;
 - (iii) circuit installation, including any seabed preparation and circuit protection;
 - (iv) contractors;
 - (v) vessels; and
 - (vi) associated works;
- (c) a project environmental management and monitoring plan, to include details of—
- (i) a marine pollution contingency plan to address the risks, methods and procedures to deal with any spills and collision incidents during construction and operation of the authorised scheme in relation to all activities carried out seaward of MHWS. The plan must include a mechanism for reporting oil, fuel and chemical spills to the MMO Marine Pollution Response Team;
 - (ii) a chemical risk analysis to include information regarding how and when chemicals are to be used, stored and transported in accordance with recognised best practice guidance;
 - (iii) a disposal plan detailing the locations, methods and timings of dredging and disposal, as well as disposal site monitoring requirements;
 - (iv) waste management and disposal arrangements;
 - (v) locations of any archaeological exclusion zones agreed as part of the written scheme of archaeological investigation approved under sub-paragraph (g);
 - (vi) any seasonal restrictions on construction works; and
 - (vii) the appointment and responsibilities of a fisheries liaison officer, an environmental liaison officer and an intertidal ecological clerk of works;
- (d) a scour protection management and cable armouring plan providing details of the need, type, sources, quantity, location and installation methods for scour protection and cable armouring to be within the scope of the environmental impact assessment recorded in the environmental statement;
- (e) in the event that driven or part-driven pile foundations are proposed to be used, a marine mammal mitigation protocol, the intention of which is to prevent injury and/or significant disturbance to marine mammals, following current best practice as advised by the statutory nature conservation bodies, which may include, but is not limited to—
- (i) identification of a marine mammal mitigation zone (“MMMZ”);
 - (ii) appointment of an appropriate number of suitably qualified marine mammal observers;
 - (iii) methods for the detection of marine mammals within the MMMZ whether visually (by the marine mammal observers) or acoustically using passive acoustic monitoring equipment or other means of detection;
 - (iv) a reporting methodology to enable efficient communication between the marine mammal observers and the person responsible for approving commencement of piling;
 - (v) an appropriate soft start procedure whereby piling activities do not commence until an agreed time has elapsed and during which marine mammals have not been detected within the MMMZ;
 - (vi) where appropriate, methods for the application of acoustic deterrent devices; and
 - (vii) where appropriate, consideration of the use of noise reduction at source technologies;
- (f) a cable specification and installation plan, to include—
- (i) technical specification of offshore electrical circuits, including a desk-based assessment of attenuation of electro-magnetic field strengths, shielding and cable burial depth in accordance with industry good practice;

- (ii) a detailed cable laying plan, including geotechnical data, cable laying techniques and a cable burial risk assessment encompassing the identification of any cable protection that exceeds 5% of navigable depth referenced to Chart Datum and, in the event that any area of cable protection exceeding 5% of navigable depth is identified, details of any steps (to be determined following consultation with the MCA) to be taken to ensure existing and future safe navigation is not compromised;
- (iii) details of the steps to be taken, where the offshore electrical circuits across the intertidal area are buried using trenching or ploughing to ensure that the excavation and subsequent backfilling is carried out in such a way as to maintain the sediment profile so far as is reasonably practicable; and
- (iv) details of the steps to be taken, where the offshore electrical circuits across the intertidal area are installed using a trenchless technique;
- (g) a written scheme of archaeological investigation in relation to the offshore Order limits seaward of MHWS in accordance with industry good practice, to include—
 - (i) details of responsibilities of the undertaker, archaeological consultant and contractor;
 - (ii) a methodology for any further site investigation including any specifications for geophysical, geotechnical and diver- or remotely-operated vehicle investigations;
 - (iii) analysis and reporting of survey data to be submitted to the MMO within 4 months of survey completion;
 - (iv) delivery of any mitigation including, where necessary, archaeological exclusion zones;
 - (v) monitoring during and post-construction, including a conservation programme for finds;
 - (vi) archiving of archaeological material; and
 - (vii) a reporting and recording protocol, including reporting of any wreck or wreck material during construction, operation and decommissioning of the authorised scheme;
- (h) a proposed survey and reinstatement plan for Salicornia forming Annex 1 habitat in the parts of the offshore Order limits within which it is proposed to carry out construction works comprised in Work No. 5A, including the circumstances in which reinstatement will be required and the proposed methods of reinstatement;
- (i) an offshore project maintenance plan to be submitted to the MMO at least 4 months before commencement of the operation of the licensed activities and to include provision for the review and resubmission of the plan every 3 years during the operational phase;
- (j) an aids to navigation management plan specifying how the undertaker will ensure compliance with Condition 4 from the start of construction of the authorised scheme seaward of MHWS to the completion of decommissioning.

(3) Before the submission of the pre-construction plans and documentation required by this Condition, the undertaker must provide a copy of the plans and documentation to the other undertakers under the Order.

(4) The undertaker must participate in liaison meetings with other undertakers under the Order as requested from time to time by the MMO in writing in advance. The meetings must be chaired by the MMO and must consider such matters as are determined by the MMO relating to the efficient operation of a deemed marine licence where it has an impact on the efficient operation of any other deemed marine licence issued under the Order (including as varied or transferred).

(5) Before giving its approval under paragraph (2), the MMO must—

- (a) in relation to any programme or plan submitted under sub-paragraphs (a), (c), (d), (f), (h) or (i), consult the relevant statutory nature conservation body and the Environment Agency;
- (b) in relation to any statement or protocol submitted under sub-paragraphs (b) or (e), consult the relevant statutory nature conservation body;

- (c) in relation to a scheme submitted under sub-paragraph (g), consult Historic England; and
- (d) in relation to a plan submitted under sub-paragraph (j), consult Trinity House.

(6) In the event that driven or part-driven pile foundations are proposed to be used, the MMO must not approve the plan referred to in paragraph (1) or the code referred to in paragraph (2) unless the MMO is satisfied, after consulting such persons as the Secretary of State may specify in relation to the plan or the part of the code specified by the Secretary of State (in addition to the persons with whom consultation is otherwise required under this Condition), that either the plan or code (or both of them) provide such mitigation as is necessary to avoid adversely affecting the integrity (within the meaning of the 2007 Regulations) of a relevant site, to the extent that marine mammals are a protected feature of that site.

(7) The mitigation referred to in paragraph (6) may include (without limitation)—

- (a) seasonal restrictions to piling;
- (b) scheduling of piling, having regard to previous, ongoing and future piling associated with other offshore developments, based on an updated assessment of cumulative impacts;
- (c) the use of alternative foundation methodologies, such as jacket foundations (suction piles) or gravity base foundations;
- (d) the use of noise reduction at source technologies;
- (e) the use of other relevant technologies or methodologies that may emerge in the future.

(8) In paragraph (6), “relevant site” means—

- (a) a European offshore marine site;
- (b) a European site.

(9) For the purpose of paragraph (6)—

- (a) the Southern North Sea possible Special Area of Conservation must be treated as a European offshore marine site until—
 - (i) that Area (or any part of it) becomes a European offshore marine site or a European site; or
 - (ii) it is decided that no part of that Area should be a European offshore marine site or a European site; and
- (b) harbour porpoise must be treated as a protected feature of the Southern North Sea possible Special Area of Conservation.

(10) In this Condition—

“2007 Regulations” means the Offshore Marine Conservation (Natural Habitats, &c.) Regulations 2007;

“disturbance” must be construed in accordance with regulation 39(1)(b) of the 2007 Regulations;

“European offshore marine site” has the meaning given in regulation 15 of the 2007 Regulations;

“European site” has the meaning given in regulation 24 of the 2007 Regulations;

“Southern North Sea possible Special Area of Conservation” means the Southern North Sea possible Special Area of Conservation as set out in the JNCC 2016 Harbour Porpoise Possible Special Area of Conservation Consultation dated January 2016.

9. The undertaker must ensure that a copy of any agreed archaeological report is deposited with the National Record of the Historic Environment, by submitting a Historic England OASIS form with a digital copy of the report within 6 months of completion of construction of the authorised scheme. The undertaker must notify the MMO and, where the report relates to the intertidal area, Lincolnshire County Council that the OASIS report has been submitted to the National Record of the Historic Environment within 2 weeks of the submission.

10.—(1) Each programme, statement, plan, protocol or scheme required to be approved under Condition 8—

- (a) must be submitted for approval at least 4 months before the intended start of construction, except where otherwise stated or where an alternative date is agreed in writing by the MMO; and
 - (b) must be accompanied by—
 - (i) a statement confirming that the undertaker has complied with Condition 8(3) in relation to the programme, statement, plan, protocol or scheme;
 - (ii) any comments received by the undertaker from the other undertakers, or a statement from the undertaker confirming that no such comments were received; and
 - (iii) details of any consultation that has been carried out with the undertakers with the benefit of all or part of the deemed marine licences under the Hornsea One Offshore Wind Farm Order 2014 and any comments received from those undertakers.
- (2) The undertaker must comply with the plans and documentation approved under Condition 8 in carrying out the licensed activities unless otherwise agreed in writing by the MMO.
- (3) Before agreeing an alternative date under paragraph (1)(a) or a change to approved details under paragraph (2) relating to any document in respect of which consultation is required under Condition 8, the MMO must consult the relevant consultation body referred to in that Condition.

Reporting of engaged agents, contractors and vessels

- 11.—**(1) The undertaker must provide the following information to the MMO—
- (a) the name and function of any agent or contractor appointed to engage in the licensed activities at least 5 working days before the commencement of the licensed activities or any part of them; and
 - (b) each week during the construction of the authorised scheme, a completed Hydrographic Note H102 listing the construction vessels currently and to be used in relation to the licensed activities.
- (2) Any changes to the supplied details must be notified to the MMO and MMO Coastal Office in writing before the agent, contractor or vessel engages in the licensed activities.
- (3) All agents, contractors and vessel operators must comply with the Conditions.

Equipment and operation of vessels engaged in licensed activities

- 12.—**(1) All vessels employed to perform the licensed activities must be constructed and equipped to be capable of the proper performance of the activities in accordance with the Conditions and must comply with paragraphs (2) to (5).
- (2) All motor-powered vessels must be fitted with—
- (a) an electronic positioning aid to provide navigational data;
 - (b) radar;
 - (c) an echo sounder; and
 - (d) multi-channel VHF.
- (3) All vessel names or identification must be clearly marked on the hull or superstructure of the vessel.
- (4) All communication on VHF working frequencies must be in English.
- (5) No vessel may engage in the licensed activities until all the equipment specified in paragraph (2) is fully operational.

Pre-construction monitoring and surveys

- 13.—**(1) The undertaker must, in discharging Condition 8(2)(a), submit details for written approval by the MMO in consultation with the relevant statutory nature conservation body and, in respect of the surveys required under paragraph (2)(b) and (c), in consultation with the

Environment Agency, of proposed pre-construction surveys, including methodologies (including appropriate buffers, where relevant) and timings, and a proposed format and content for a pre-construction baseline report; and—

- (a) the survey proposals must be in general accordance with the principles set out in the in-principle monitoring plan and must specify each survey's objectives and explain how it will assist in either informing a useful and valid comparison with the post-construction position and/or will enable the validation or otherwise of key predictions in the environmental statement; and
 - (b) the baseline report proposals must ensure that the outcome of the agreed surveys together with existing data and reports are drawn together to present a valid statement of the pre-construction position, with any limitations, and must make clear what post-construction comparison is intended and the justification for this being required.
- (2) Subject to receipt from the undertaker of specific proposals pursuant to this Condition, so far as applicable, the pre-construction surveys must comprise, in outline—
- (a) a survey to determine the location, extent and composition of any benthic habitats of conservation, ecological and/or economic importance (including Annex 1 habitats) in the parts of the offshore Order limits in which it is proposed to carry out construction works under this licence;
 - (b) a phase 1 survey of the intertidal area within which it is proposed to carry out construction works;
 - (c) a high-resolution swath bathymetric survey to include a 100% coverage and a side-scan sonar survey of the parts of the offshore Order limits within which it is proposed to carry out construction works and disposal activities under this licence; and
 - (d) a grab survey and particle size analysis in the parts of the offshore Order limits within which it is proposed to carry out dredging and disposal activities relating to Work Nos. 3A and 4A under this licence within a period not greater than 12 months before the dredging and disposal activities to determine the extent of suitable herring spawning habitat within those areas.
- (3) The undertaker must carry out the surveys agreed under paragraph (1) and provide the baseline report to the MMO in the agreed format in accordance with the agreed timetable, unless otherwise agreed in writing by the MMO in consultation with the relevant statutory nature conservation body.

Construction monitoring

14.—(1) The undertaker must, in discharging Condition 8(2)(a), submit details for written approval by the MMO in consultation with the relevant statutory nature conservation body of any proposed construction monitoring, including methodologies and timings, and a proposed format, content and timings for providing reports on the results. The survey proposals must be in general accordance with the principles set out in the in-principle monitoring plan and must specify each survey's objectives and explain how it will assist in either informing a useful and valid comparison with the pre-construction position and/or will enable the validation or otherwise of key predictions in the environmental statement.

(2) Subject to receipt from the undertaker of specific proposals pursuant to this Condition, so far as applicable, the construction monitoring must comprise, in outline—

- (a) unless the MMO agrees otherwise in writing, measurements of noise generated by the installation of the first 4 foundations of each discrete foundation type comprised in Work No. 2A to be constructed under this licence where driven or part-driven pile foundations are used;
 - (b) recording of any visual sightings or acoustic detection of marine mammals where required as part of the marine mammal mitigation protocol under Condition 8(2)(e).
- (3) The undertaker must carry out the surveys approved under paragraph (1), including any further noise monitoring required in writing by the MMO under paragraph (4), and provide the agreed reports in the agreed format in accordance with the agreed timetable, unless otherwise

agreed in writing with the MMO in consultation with the relevant statutory nature conservation body.

(4) The results of the initial noise measurements monitored in accordance with paragraph (2)(a) must be provided to the MMO within 6 weeks of the installation of the first 4 foundations of each discrete foundation type for the MMO to determine, following assessment of this report, whether any further noise monitoring is required.

(5) Construction monitoring must include vessel traffic monitoring by automatic identification system for the duration of the construction period. A report must be submitted to the MMO and the MCA at the end of each year of the construction period.

Post-construction

15.—(1) The undertaker must, in discharging Condition 8(2)(a), submit details for written approval by the MMO in consultation with the relevant statutory nature conservation body and, in respect of the surveys required under paragraph (2)(a), (b) and (c), in consultation with the Environment Agency, of proposed post-construction surveys, including methodologies (including appropriate buffers, where relevant) and timings, and a proposed format, content and timings for providing reports on the results. The survey proposals must be in general accordance with the principles set out in the in-principle monitoring plan and must specify each survey's objectives and explain how it will assist in either informing a useful and valid comparison with the pre-construction position and/or will enable the validation or otherwise of key predictions in the environmental statement.

(2) Subject to receipt of specific proposals, so far as applicable, the post-construction surveys must comprise, in outline—

- (a) a survey to determine any change in the location, extent and composition of any benthic habitats of conservation, ecological and/or economic importance (including Annex 1 habitats) identified in the pre-construction survey in the parts of the offshore Order limits in which construction works were carried out. The survey design must be informed by the results of the pre-construction benthic survey;
- (b) a high-resolution swath bathymetric survey to be undertaken no sooner than 6 months following completion of construction works and disposal activities to include a 100% coverage of the parts of the offshore Order limits with a water depth no greater than 12 metres (referenced to Chart Datum) within which construction works and disposal activities were carried out under this licence to assess any changes in bedform morphology and such further monitoring as may be required to ensure that the cables have been buried or protected and sediment is able to move over any installed cable protection. The need for further surveys must be agreed in writing with the MMO following submission of the first year of survey data;
- (c) a high-resolution bathymetric survey of a representative sample area, as may be agreed in writing with the MMO, of the parts of the offshore Order limits with a water depth no greater than 12 metres (referenced to Chart Datum) within which construction works and disposal activities were carried out under this licence following the first major storm event the timing of which must be agreed with the MMO in consultation with Natural England and the Environment Agency;
- (d) a grab survey and particle size analysis in the parts of the offshore Order limits within which dredging and disposal activities relating to Work Nos. 3A and 4A were carried out under this licence within 12 months of the completion of the dredging and disposal activities to determine the extent of suitable herring spawning ground habitat within those areas; and
- (e) vessel traffic monitoring by automatic identification system, for 28 days taking account seasonal variations in traffic patterns, for a maximum duration of 1 year post-

construction. A report must be submitted to the MMO and the MCA at the end of the first year after construction is completed.

(3) The undertaker must carry out the surveys agreed under paragraph (1) and provide the agreed reports in the agreed format in accordance with the agreed timetable, unless otherwise agreed in writing with the MMO in consultation with the relevant statutory nature conservation body.

Offshore decommissioning

16.—(1) No decommissioning activities may commence until a plan for the carrying out of the activities has been submitted to and approved in writing by the MMO and, where the plan relates to the decommissioning of Work No. 4A or 5A, the MMO must consult the Environment Agency before giving its approval.

(2) The plan must be submitted for approval at least 4 months before the intended start of the decommissioning activities, except where otherwise stated or unless otherwise agreed in writing by the MMO.

(3) The plan must be implemented as approved.

Amendments to approved plans, etc.

17.—(1) Where any Condition requires the licensed activities to be carried out in accordance with any plan, programme, code, statement, protocol scheme or details (the “plan”) approved by the MMO, the approved plan must be taken to include any amendment to the plan that may subsequently be approved in writing by the MMO.

(2) Any amendment to the plan must be in accordance with the principles and assessments set out in the environmental statement, and approval for an amendment may be given only where it has been demonstrated to the satisfaction of the MMO that amendment is unlikely to give rise to any materially new or materially different environmental effects from those assessed in the environmental statement.

Restrictions in intertidal area and Humber Estuary Special Area of Conservation

18.—(1) The cable protection to be used within the Humber Estuary Special Area of Conservation must be frond matting, unless otherwise agreed in writing with the MMO.

(2) No cable protection may be used within the intertidal area of the Humber Estuary Special Area of Conservation.

(3) The undertaker must not construct or install the licensed activities comprised in Work No. 4A or 5A in the intertidal area during the overwintering period unless otherwise agreed in writing with the MMO, in consultation with Natural England.

(4) The undertaker must not construct or install the licensed activities comprised in Work Nos. 4A and 5A in the intertidal area within 500 metres seaward of the seawall during the period of time commencing 2 hours before a high tide predicted to be greater than 6.5 metres Chart Datum and ending 2 hours after a high tide predicted to be greater than 6.5 metres Chart Datum between 1st April and 31st May (inclusive) and 1st August to 30th September (inclusive), unless provided for in the construction and monitoring programme submitted and approved under Condition 8(2)(a) or the construction method statement submitted and approved under Condition 8(2)(b) or unless otherwise agreed in writing by the MMO, in consultation with Natural England.

(5) The undertaker must not carry out inspections in the intertidal area during the overwintering period to the extent that the inspections require to be carried out—

- (a) more than once per overwintering period;
- (b) over more than 2 consecutive days by people on foot; or
- (c) by more than 5 people on foot at any one time,

unless otherwise agreed in writing with the MMO, in consultation with Natural England or unless provided for in the offshore project maintenance plan submitted and approved under Condition 8(2)(i).

(6) Where this Condition provides that the MMO may agree to an alternative to what is otherwise provided under this Condition—

- (a) any alternative must be in accordance with the principles and assessments set out in the environmental statement; and
- (b) agreement to any alternative may be given only where it has been demonstrated to the satisfaction of the MMO that the alternative is unlikely to give rise to any materially new or materially different effects from those assessed in the environmental statement.

(7) In this Condition, “overwintering period” means the period between 1st October and 31st March (inclusive).