

DEPARTMENT OF ENERGY AND CLIMATE CHANGE

ELECTRICITY ACT 1989 (Section 36)

**CONSTRUCTION AND OPERATION OF A WIND FARM GENERATING STATION
KNOWN AS DUDGEON OFF THE COAST OF NORFOLK**

1. Pursuant to section 36 of the Electricity Act, the Secretary of State for Energy and Climate Change (“the Secretary of State”) hereby consents to the construction and operation by Dudgeon Offshore Wind Limited (“the Company”), on the areas outlined in red on Figures 1 and 2 annexed hereto and duly endorsed on behalf of the Secretary of State, of an offshore wind turbine generating station (“the Development”) located approximately 32 kilometres from the coast of Norfolk¹.

2. The Development shall comprise:

(a) wind turbine generators of the size and type chosen by the Company (subject to compliance with any requirements as to their size imposed by or under these conditions);

(b) inter-turbine cabling;

(c) up to 3 offshore sub-stations;

(d) up to 4 meteorological masts; and,

(e) an accommodation platform.

3. The maximum generating capacity of the Development shall not exceed 560MW at any time.

4. Before commencement of the construction of the Development, the number, rotor diameter and individual generating capacity of the turbines which are to be constructed must (subject to condition 5) be approved in writing by the Secretary of State.

5. The number, rotor diameter and generating capacity of the wind turbines constructed shall not be such that their operation may be expected to result in a collision risk mortality of more than 28 sandwich terns per annum, as predicted by the collision risk model specified in paragraph 7.33 of the Appropriate Assessment of

¹ Figures 1 and 2 substituted by variation to this consent in accordance with the details submitted by the Company to the Secretary of State on 5 August 2013.

18 December 2013². For these purposes, the construction of turbines with the rotor diameters and individual turbine ratings specified in the third column of the table in Annex A in the numbers specified in the sixth column of that table satisfies this condition and does not require the Secretary of State's approval³.

6. This consent is granted subject to the following additional conditions:

(a) the commencement of the Development shall not be later than the expiry of five years from the date of this consent, or such longer period as the Secretary of State may hereafter direct in writing;

Reason: to ensure the Development is constructed within a reasonable timescale after consent is granted.

(b) the Development shall be constructed within the red line limits and by reference to the indicative layout specified on the attached Figure 2 in accordance with the details contained in the Company's application of 5 August 2013 and further information submitted to the Secretary of State on 25 October 2013.

Reason: to ensure the Development is constructed as described in the Company's application.

(c) the Company shall not commence construction of the Development permitted by this consent, until the Company has submitted to the Secretary of State a decommissioning programme, in compliance with a notice served upon the Company by the Secretary of State pursuant to section 105(2) of the Energy Act 2004.

Reason: to ensure that a decommissioning programme is submitted to the Secretary of State before any construction work commences.

(d) The Company shall not commence construction of the Development until the Secretary of State, in consultation with the Maritime and Coastguard Agency (MCA) is satisfied that the Company has taken into account and adequately addressed all the MCA recommendations in the current Offshore Renewable Energy Installations Marine Guidance Note, "Offshore Renewable Energy Installations (OREIs) - Guidance on UK Navigational Practice, Safety and Emergency Response Issues" and any Annexes that may be appropriate to the Development.

² References in this consent to "Appropriate Assessment" are to appropriate assessments undertaken by the Department of Energy and Climate Change ("DECC") under Regulation 25 of the Offshore Marine Conservation (Natural Habitats, &c.) Regulations 2007 (as amended). Two Appropriate Assessments have been undertaken by DECC, in respect of the Company's application for this consent (which also covered applications for wind farms at Docking Shoal and Race Bank); and the Appropriate Assessment of 18 December 2013 in respect of the Company's application of 5 August 2013 to vary this consent.

³ Annex A amended by variation to this consent in accordance with the Appropriate Assessment of 18 December 2013 in respect of the application to vary this consent.

Reason: to ensure that an Active Safety Management System is agreed by the Secretary of State taking into account MCA recommendations before any construction work commences and to ensure compliance with MCA navigation safety guidance.

(e) No turbine forming part of the development shall begin to be constructed until the Secretary of State, having consulted with the Operator, is satisfied that appropriate mitigation will be implemented and maintained for the life of the Development and that arrangements have been put in place with the Operator to ensure that such appropriate mitigation is implemented before the Development gives rise to any adverse impact on air traffic services.

In this condition:

“appropriate mitigation” means measures to prevent or remove any adverse impacts which the operation of the Development will have on the Operator’s ability to provide safe and efficient air traffic services during the lifetime of the Development, in respect of which all necessary stakeholder consultation has been completed by the Operator and all necessary approvals and regulatory consents have been obtained;

“Operator” means NATS (En Route) plc, registered under the Companies Act (4129273) whose registered office is 5th Floor, Brettenham House South, Lancaster Place, London WC2E 7EN, or such other organisation as is licensed from time to time under sections 5 and 6 of the Transport Act 2000 to provide air traffic services in an area which includes the development;

Reason: To ensure that the Development does not adversely affect the ability of NATS (En-Route) Limited or any subsequent provider of air traffic services in the area of the Development licensed under sections 5 and 6 of the Transport Act 2000 to provide safe and efficient air traffic services by means of air traffic control radar.

7. Except with the prior written approval of the Secretary of State, no wind turbine forming the Development shall:

(a) exceed a height of 190 metres when measured from Mean High Water Springs to the tip of the vertical blade;

(b) exceed a height of 110 metres to the hub when measured from Mean High Water Springs;

(c) exceed a rotor diameter of 160 metres;

(d) be less than 360 metres from another turbine where such turbine is in the same row or less than 600 metres where this is the distance between such rows of turbines;

(e) have a distance of less than 22 metres between the lowest point of the rotating blade and the level of Mean High Water Springs;

(f) subject to conditions 8(a) and 10, be lit unless the lighting used is of a shape, colour and character as required by Air Navigation Order 2009 or as directed by the Civil Aviation Authority; and,

(g) subject to condition 8(b), be painted in any colour other than submarine grey RAL7035. Any offshore sub-station, accommodation platform and meteorology mast shall be similarly painted.

Reason: to minimise the visual impact of the Development, to ensure final positioning of the wind turbines, sub-stations and meteorological masts does not compromise air and marine navigation safety and the equipment is painted in approved colours.

8. The Company shall:

(a) during the whole of the time from the start of the works to construct the Development to the time when decommissioning has been fully completed, exhibit such lights, marks, sounds, signals and other aids to navigation as Trinity House Lighthouse Service (“Trinity House”) may from time to time direct;

(b) colour all structures in the Development as directed by Trinity House;

(c) when appropriate, provide relevant information to the MCA to assist in the timely and efficient Notices to Mariners and other navigational warnings of the position and nature of the works to be promulgated to mariners in the shipping and fishing industry as well as to recreational mariners;

(d) notify the UK Hydrographic Office (UKHO) and Trinity House of both the progress and completion of the works and navigational marks established from time to time and as soon as reasonably practicable; and,

(e) provide reports on the working condition of aids to navigation periodically as requested by Trinity House.

Reason: to ensure the adequate navigational marking of the Development and the provision of information to mariners, Trinity House and UKHO in a timely manner.

9. Where the Development is abandoned, or suffered to fall into decay, the Secretary of State may by notice in writing, and following consultation with the Company, require the Company at its own expense either to repair and restore the Development or any part of it, or, if appropriate, and without prejudice to any obligations upon the Company deriving from any notice served by the Secretary of State pursuant to section 105(2) of the Energy Act 2004 to remove the Development and restore the site of the Development to a safe and proper condition, to such an extent and within such limits as may be specified in the notice.

Reason: to provide a mechanism to allow the Secretary of State to act on his own initiative as regards the proper maintenance of the site where the Company fails to do so.

10. In the case of damage to, or destruction or decay of the Development or any part thereof, the Company shall as soon as reasonably practicable notify Trinity House and shall lay down such buoys, exhibit such lights and take such other steps as directed from time to time by Trinity House.

Reason: to mitigate any possible dangers to navigation from any restoration, repair or removal of works.

11. Except as provided in paragraph 12 below, the whole of the Development shall be constructed so as to conform to the specification set out in the Annex B to this consent (“the Modelling Parameters”)⁴.

12. The Company shall not take any steps towards the erection of any turbine or other structure, the erection of which may cause the Development not to conform to the Modelling Parameters, without obtaining the necessary written approval of the Secretary of State, stating that, having consulted the Ministry of Defence, he is satisfied that:

- (a) the erection of such turbine or other structure will not cause unacceptable impairment to the functioning of military radar at RRH Trimingham; or
- (b) that the Company has agreed with the Ministry of Defence to fund further work which will adequately mitigate any such impairment.

Reason: To safeguard the operation of nearby air defence radar in the interests of national security by ensuring that the adverse impacts of the Development on radar are acceptable.

13. No turbine shall be erected closer than 1 nautical mile to the proposed location of the Blythe Gas Facility at coordinate location X m: 387035 Y m: 5899712 UTM Zone 31; Lat: 53 14' 8.05909N Long: 1 27' 26.4555 E without the written approval of the Secretary of State following consultation by him with the Facility owners.

Reason: To protect the interests of the owners of the proposed Blythe Facility.

Date: 6 July 2012

Giles Scott
Head, National Infrastructure Consents
Department of Energy and Climate Change

⁴ Annex B substituted by variation to this consent in accordance with the details submitted in the Company's application for variation on 5 August 2013 and further information submitted by the Ministry of Defence to the Secretary of State on 10 October 2013.

Annex A

DUDGEON TURBINE CONFIGURATION OPTIONS BASED ON CURRENT TURBINE CHOICES USING AN ANNUAL MORTALITY THRESHOLD OF 28 SANDWICH TERNS FROM AN OVERALL GREATER WASH THRESHOLD OF 94 SANDWICH TERNS ASSESSED USING THE COLLISION RISK MODEL ON THE BASIS OF 98.83% AVOIDANCE RATE⁵

Column 1	Column 2	Column 3	Column 4	Column 5	Column 6	Column 7
Turbine type where known	Proposed number of turbines	Turbine rating and rotor diameter	Proposed maximum generating capacity and predicted project bird mortality	Average number of birds killed per turbine pa	No of turbines calculated on 28 bird project threshold	Max capacity MW
Not specified	168	3 MW 112m	504 MW 43	0.256	109	327
Not specified	118	3 MW 112m	354 MW 30	0.254	110	330
Not specified	120	3.6 MW 120m	432 MW 29	0.242	115	414
Not specified	85	6.15 MW 126m	522.75 26	0.306	91	560
Not specified	69	6MW 150m	414MW 21	0.304	92	552
Not specified	69	6MW 154m	414MW 24	0.348	80	480
Not specified	77	5MW 135.3,	385MW 27	0.351	79	395

⁵ Rows 1 – 4 of this table are derived from the Appropriate Assessment (AA) (December 2011 amended June 2012) undertaken by DECC for the proposed Docking Shoal, Race Bank and Dudgeon offshore wind farms. Rows 5 – 7 of this table are derived from the AA (December 2013) undertaken by DECC for the variation of this consent.

Annex B

Ministry of Defence Modelling Parameters

Site:

Dudgeon

Maximum Number of Turbines:

77

Maximum Turbine Height Above Mean Sea Level:

190 metres (when measured to the tip of the vertical blade)

Basic Blade Design:

Conventional three-bladed “horizontal axis” turbines

Location (Envelope Coordinates) outside of which no turbine bases shall be Constructed:

	Site Boundary Coordinates (WGS84) Decimal Degrees	
Corner of Site	Longitude E	Latitude N
A	1 19.30285	53 18.38403
B	1 19.4767	53 18.30362
C	1 20.56163	53 18.92538
D	1 26.79003	53 16.05623
E	1 26.67273	53 14.3196
F	1 25.92395	53 14.68617
G	1 25.75673	53 12.59615
H	1 19.08832	53 15.69072