



**Defence  
Infrastructure  
Organisation**

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Our Reference: DIO 10037291

The Planning Inspectorate  
National Infrastructure Directorate  
Temple Quay House  
Temple Quay  
Bristol  
BS1 6PN

27<sup>th</sup> January 2020

Dear Sir/Madam,

**The East Anglia One North Offshore Wind Farm**  
**Application for a Development Consent Order under Section 37 of the Planning Act 2008.**

I write to confirm the safeguarding position of the Ministry of Defence (MOD) in relation to the above application to construct and operate the East Anglia One North Offshore wind farm.

This scheme will comprise of up to 67 wind turbines, up to 300m in height (to blade tip) that will be located in the North Sea in a development zone situated approximately 36km east of the Suffolk coast. In addition to the turbine structures, the scheme may include an offshore construction, operation and maintenance platform, up to 4 offshore electrical platforms, a met mast, subsea cabling and other associated infrastructure. The onshore element of the project includes subterranean cabling as well as electrical substations and other associated infrastructure to transfer the generated power from the Suffolk coast to connect with the National Grid to the southwest of Leiston.

In relation to the onshore element of the proposed development, the route identified for the installation of the cable and the associated improvements to national grid infrastructure will not occupy MOD statutory safeguarding zones or be in proximity to MOD estate. Therefore, it is not anticipated that the onshore development will adversely affect MOD interests.

The MOD has assessed the location and layout of the offshore element of the development scheme proposed. The scheme outlined will not physically impact upon MOD offshore Danger and Exercise Areas. or adversely affect defence maritime navigational interests. However, the turbines and some of the tall ancillary offshore structures will affect military low flying training activities that may be conducted in this area. As such it will be necessary for these structures to be fitted with appropriate aviation warning lighting to maintain the safety of military air traffic.

In relation to the operation of defence radars, taking account of the location and scale of wind turbines that may be utilised, it has been determined that the proposed wind farm will be in line of sight and detectable to the air defence radar located at Remote Radar Head (RRH) Trimingham.

Wind turbines have been shown to have detrimental effects on the operation of air defence radar. These include the desensitisation of the radar in the vicinity of wind turbines, and the creation of "false" aircraft returns. The probability of the radar detecting aircraft flying over or in the locality of the turbines would be reduced, hence turbine proliferation within a specific locality can result in unacceptable degradation of the radar's operational

integrity. This would reduce the RAF's ability to detect and manage aircraft in United Kingdom sovereign airspace, thereby preventing it from effectively performing its primary function of Air Defence of the United Kingdom.

Our assessments have determined that the proposed wind farm will cause unacceptable and unmanageable interference to the effective operation of the air defence radar at RRH Trimmingham.

This issue has been recognised by the applicant, who has undertaken to assess the impacts the wind farm will have upon the air defence radar. However, the full performance attributes of this radar type are not available in the public domain. Therefore, whilst the radar modelling undertaken on behalf of the applicant serves to provide an approximate indication of the impacts the wind farm is likely to have, it is not able to accurately account for the extent to which the air defence radar will be able to detect the wind turbines.

The applicant has identified a technical mitigation concept to address the adverse impacts of the development upon the air defence radar. The MOD considers this to be suitable to enable a Requirement for the provision of a radar technical mitigation to be included in a Development Consent Order.

The applicant has included three Requirements (13, 31 and 34) in the draft Development Consent Order (dDCO) they have submitted in support of this application to address the safeguarding requirements of the MOD.

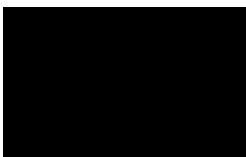
Requirements 13 and 31 respectively relate to the need for the applicant to provide details of the locations and dimensions of the development for aviation charting purposes and to attach aviation warning lighting to relevant offshore structures necessary to maintain military aircraft safety. These effectively account for these safeguarding requirements, as such, the MOD is content with the wording of these two draft Requirements as documented in Annex A.

The applicant has also included Requirement 34 to address the impacts the development will have upon the air defence radar at RRH Trimmingham. The applicant's proposed Requirement defines maximum heights that wind turbines deployed in specific areas of the offshore development envelope (defined in an attached plan) could be built up to without requiring a technical mitigation. As identified above, the applicant's modelling of the radar detectability of turbines that may feature in this scheme is not suitable for precisely defining the maximum heights turbines could be built up to within specific areas of the development envelope without causing unacceptable and unmanageable interference to the air defence radar at RRH Trimmingham. The MOD does not consider that such precise development limitations can be prescribed in this way whilst ensuring the effective operation of the air defence radar. Therefore, the MOD cannot accept the wording of Requirement 34 as currently included in the dDCO. An alternative version of this Requirement is attached at Annex B which uses wording that the MOD considers suitable for the purpose of addressing air defence safeguarding requirements. The MOD respectfully submits this for the consideration of the Examining Authority.

I can therefore confirm that, the MOD maintains no safeguarding objection to this application subject to the inclusion of these three requirements, as detailed in Annexes A and B below in any Development Consent Order that may be granted for this scheme.

I trust this clarifies our position on this consultation. Please do not hesitate to contact me should you wish to consider these points further.

Yours sincerely



Jon Wilson

Senior Safeguarding Manager

## **Annex A**

### **Aviation safety**

**13.**(1) The undertaker must notify the Defence Infrastructure Organisation Safeguarding, at least 14 days prior to the commencement of the authorised scheme, in writing of the following information—

- (a) the date of the commencement of construction of the authorised scheme;
- (b) the date any wind turbine generators are brought into use;
- (c) the maximum height of any construction equipment to be used;
- (d) the maximum heights of any wind turbine generator, meteorological mast and platform to be constructed;
- (e) the latitude and longitude of each wind turbine generator, meteorological mast and platform to be constructed,

and the Defence Infrastructure Organisation Safeguarding must be notified of any changes to the information supplied under this paragraph and of the completion of the construction of the authorised scheme. Copies of notifications must be provided to the MMO within five working days of the notification to the Defence Infrastructure Organisation Safeguarding.

### **Aviation Lighting**

**31.** The undertaker must exhibit such lights, with such shape, colour and character as are required in writing by Air Navigation Order 2016(a) and determined necessary for aviation safety in consultation with the Defence Infrastructure Organisation Safeguarding and as directed by the Civil Aviation Authority.

## **ANNEX B**

### **Ministry of Defence Surveillance Operations**

1. No development of any wind turbine generator forming part of the authorised development shall commence unless and until an Air Defence Radar Mitigation Scheme (“the ADRM scheme”) has been submitted to and approved in writing by Secretary of State in conjunction with the Ministry of Defence (MOD).

For the purposes of this condition, the ADRM Scheme means a detailed scheme to mitigate the adverse impacts of the development on the air defence radar at Remote Radar Head (RRH) Trimingham and the air surveillance and control operations of the MOD. The scheme will set out the appropriate measures to be implemented to that end.

2. No wind turbine erected as part of this development shall be permitted to rotate its rotor blades about its horizontal axis, other than for the purpose of testing radar mitigation for this development for specific periods as defined in the approved ADRM or otherwise arranged in accordance with provisions contained in the approved ADRM, until:

- a) those mitigation measures required to be implemented prior to any wind turbine being permitted to rotate its rotor blades about its horizontal axis as set out in the approved ADRM scheme have been implemented; and
- b) any performance criteria specified in the approved ADRM scheme and which the approved ADRM scheme requires to have been satisfied prior to any wind turbine being permitted to rotate its rotor blades about its horizontal axis have been satisfied and the Secretary of State, in conjunction with the Ministry of Defence, has confirmed this in writing.

Thereafter the development shall be operated strictly in accordance with the details set out in the approved ADRM scheme for the lifetime of the development.