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**Your ref**

DIO 10037291 / DIO 10037292 /  
DIO 17608

**Our ref**

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**Date**

14 October 2020

**Contact**

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Dear Jon and Des

**East Anglia TWO (EA2) and East Anglia ONE North (EA1N): dDCO Requirement 34  
East Anglia THREE (EA3): DCO Requirement 33  
Air Defence Radar Mitigation**

I refer to the MOD's relevant representations in respect of EA2 and EA1N dated 27 January 2020 and our teleconference on 15 April 2020 to discuss the relevant representations and the draft Statement of Common Ground in respect of EA2 and EA1N.

I also refer to DIO's response to the Planning Inspectorate dated 30 September 2020 in relation to the non-material change sought for EA3 in which you have requested the substitution of the existing EA3 Requirement 33 (air defence) with the same terms as you have requested for EA2 and EA1N.

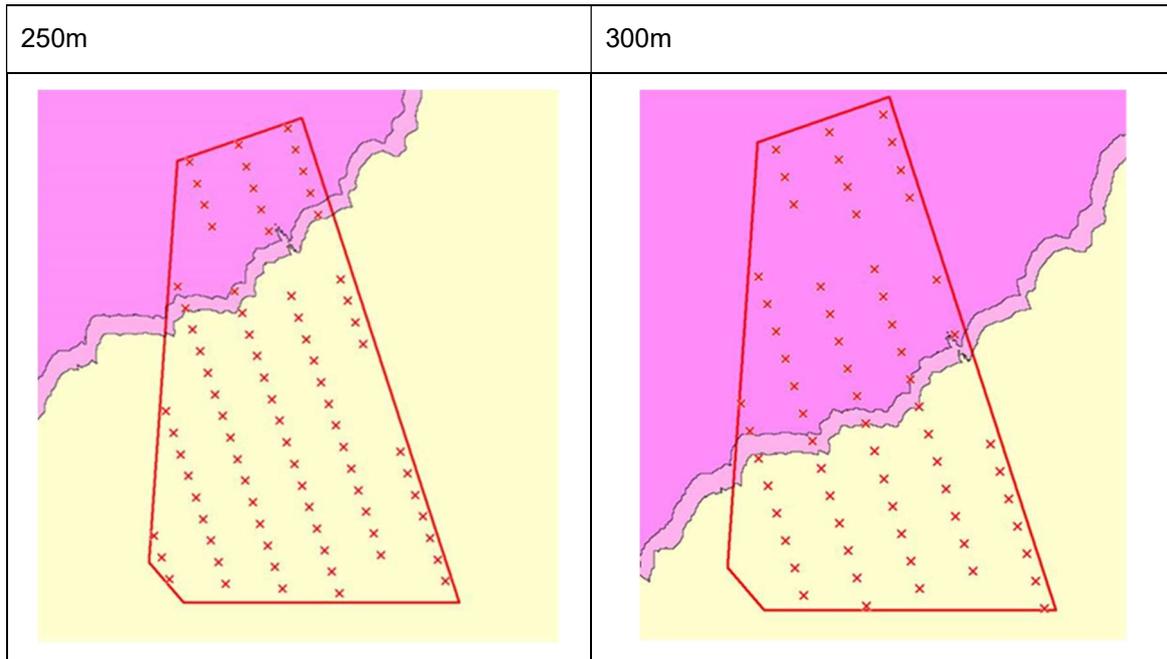
The revised drafting DIO has proposed for Requirement 34 (EA3 Requirement 33) is not acceptable to SPR. Your proposed drafting marks a significant change from what was accepted by MOD for EA3 and also more recently for Norfolk Vanguard and Norfolk Boreas.

DIO's proposed Requirement 34(2) in effect entrenches DE&S Windfarm Team's three phase mitigation process in a planning condition. This is notwithstanding that a key focus of the Joint MOD-OWIC Air Defence Task Force, on which both Des and I sit, is a thoroughgoing revision of the DE&S three phase process in order that the UK can meet its legislated Net Zero and Offshore Wind Sector Deal targets. This is why I have sent this letter to both of you.

This letter first addresses the radar modelling issue for EA2 then turns to provide a critique of and proposed way forward with respect to the air defence requirement for EA3, EA2 and EA1N.

***EA2 Radar modelling***

During our call on 15 April, Jon, you indicated that SPR has used incorrect antenna aperture height in its radar modelling of RRH Trimmingham. You suggested that with the correct antenna aperture height, all the EA2 would be in RLOS of Trimmingham at 250m. We were surprised that the difference in aperture height would have such a significant impact on RLOS. To this end, we asked Cyrrus to re-do the EA2 modelling at 250m and 300m at the correct aperture height, comparing it with the results in the radar modelling. The results are shown below:



As you will observe, the difference is not significant. I would also draw your attention to East Anglia THREE's non material change (EA3 NMC) which DIO is currently considering. The incorrect Trimmingham aperture height had also been used in EA3, and not picked up by the MOD. We have now rectified this in the EA3 NMC documentation and again the difference is not significant.

We understand that Cyrrus does not have access to the full (classified) performance parameters of the TPS-77 and so the modelling is less nuanced than that of the MOD. However, it is clear that there are areas of EA2 which will not be in RLOS of RRH Trimmingham. We also understand that the MOD does not object on anaprop grounds.

**EA2 / EA1N dDCO Requirement 34 (EA3 Requirement 33)**

SPR recognises that its proposed DCO condition did rely on perhaps overly specific RLOS graduations and to this end understand DIO's desire to seek to amend Requirement 34.

Unfortunately, as noted above, the revised drafting DIO has proposed for Requirement 34 is not acceptable.

Our principal concerns with your proposed Requirement 34 (EA3 Requirement 33) include:

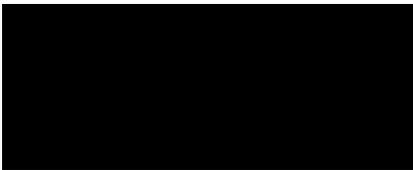
- Only turbines in RLOS of RRH Trimmingham require mitigation – there should not be any MOD constraint on the erection and operation of turbines which are not in RLOS of RRH Trimmingham.
- The windfarm operator should only be required to support (fund) mitigation measures for so long as mitigation is required – once the MOD assumes responsibility for its surveillance infrastructure being windfarm tolerant (anticipated to be by the mid-2030s), there should be no ongoing MOD constraint on the operation of turbines in RLOS of RRH Trimmingham.
- Only the rotation of turbines or their erection above the transition piece should be all that is constrained by the MOD AD condition, not the commencement of onshore or offshore foundation works.

- How does the testing protocol in your proposed Requirement 34(2) work? It reads as if the wind turbines should be fully built then just switched on for small periods to test the selected mitigation, and if the mitigation selected by the MOD does not work as well as the MOD had hoped, the turbines are switched off pending a new mitigation to be identified and implemented (all at the developer's risk and cost).
- Will the developer be informed of what the performance criteria are, or will this be classified?
- Will the developer be able to so contract with the mitigation supplier to ensure that if the MOD selected mitigation does not meet these performance criteria, the mitigation supplier will carry the risk of a stranded green electricity generation asset (billions of pounds of investment). None of this sits with the OWIC-MOD-BEIS Air Defence Mandate and Delivery Plan signed earlier in the year.
- The BEIS Secretary of State approves the RMS – the BEIS SofS only has to consult the MOD.

In the spirit of compromise and based by what DIO accepted for Norfolk Vanguard and Boreas, we have prepared an alternative Requirement 34 (EA3 Requirement 33) for your consideration. We have set out all three options conditions (our initial proposal, without map; your counter proposal; and our compromise response based on Vanguard/Boreas but taking into account some of our points above).

We welcome the opportunity to discuss this with you in the near future.

Yours sincerely



Anne Mackenzie  
Senior Aviation Manager

Copy to: [REDACTED], [REDACTED], [REDACTED], [REDACTED], SPR; [REDACTED], GOBE

**East Anglia TWO / ONE North MOD AD Requirement 34 (EA3 Requirement 33)**

Requirement 34 as proposed by SPR in draft DCO (EA2) – reflects existing EA3 Requirement 33	Requirement 34 as proposed by MOD in Relevant Rep	Proposed new EA2/1N Requirement 34 (based on Vanguard/Boreas)
<p><b>Ministry of Defence surveillance operations</b></p> <p>34.—(1) No construction of any radar line of sight wind turbine generator (RLSWTG) forming part of the authorised development and within radar line of sight of the air defence radar at Remote Radar Head (RRH) Trimingham may commence until the Secretary of State, having consulted with the Ministry of Defence, confirms satisfaction in writing that appropriate mitigation is available and that arrangements have been put in place with the Ministry of Defence to ensure that such appropriate mitigation is implemented for the required period.</p>	<p><b>Ministry of Defence Surveillance Operations</b></p> <p>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).</p> <p>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.</p>	<p><b>Ministry of Defence surveillance operations</b></p> <p>34.—(1) No wind turbine generator forming part of the authorised development is permitted to rotate its rotor blades on its horizontal axis until the Secretary of State, having consulted with the Ministry of Defence, confirms satisfaction in writing that appropriate mitigation will be implemented and maintained for the required period and that arrangements have been put in place with the Ministry of Defence to ensure that the approved mitigation is implemented.</p>
<p>(2) For the purposes of this requirement—</p> <p>(a) “appropriate mitigation” means measures to mitigate any adverse effects which the operation of the authorised development will have on the air defence radar at Remote Radar Head (RRH) Trimingham and the Ministry of Defence’s air surveillance and control operations;</p> <p>(b) “Ministry of Defence” means the Ministry of Defence as represented by Defence Infrastructure Organisation – Safeguarding, Kington Road, Sutton Coldfield, B75 7RL or any successor body;</p> <p>(c) “the required period” means the shorter of—</p> <p>(i) the operational life of the authorised development; and</p> <p>(ii) the period ending on the date notified to the Secretary of State by the undertaker and confirmed in writing by the Ministry of Defence being the date on which responsibility for ensuring its air defence radar surveillance systems accommodate the modern built environment including wind turbines is assumed by the Ministry of Defence.</p> <p>(d) “RLSWTG” means a wind turbine generator which exceeds the following heights when measured above Mean Sea Level (Newlyn) to the tip of the vertical blade— <i>[for EA2 – same approach, different map adopted for EA1N]</i></p> <p>(i) 209 metres in area A;</p> <p>...</p> <p>(ix) 290 metres in area I.</p> <p>(e) “areas A, B, C, D, E, F, G, H and I” means the areas defined by radar line of sight boundaries shown on the radar line of sight coverage plan.</p>	<p>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:</p> <p>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</p> <p>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.</p>	<p>(2) For the purposes of this requirement—</p> <p>(a) “appropriate mitigation” means measures to mitigate any adverse effects which the authorised development will have on the air defence radar at Remote Radar Head (RRH) Trimingham and the Ministry of Defence’s air surveillance and control operations;</p> <p>(b) “approved mitigation” means the detailed Radar Mitigation Scheme (RMS) setting out the appropriate mitigation and timescales for implementation as agreed with the Ministry of Defence at the time the Secretary of State confirms satisfaction in writing in accordance with paragraph (1);</p> <p>(c) “Ministry of Defence” means the Ministry of Defence as represented by Defence Infrastructure Organisation – Safeguarding, Kington Road, Sutton Coldfield, B75 7RL or any successor body;</p> <p>(d) the “required period” means the shorter of—</p> <p>(i) the operational life of the authorised development; and</p> <p>(ii) the period ending on the date notified to the Secretary of State by the undertaker and confirmed in writing by the Ministry of Defence being the date on which the Ministry of Defence no longer requires the appropriate mitigation to be in place.</p>
<p>(3) The undertaker must comply with the obligations contained within the appropriate mitigation for the required period.</p>	<p>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.</p>	<p>3) The undertaker must thereafter comply with the obligations contained within the approved mitigation for the required period.</p>