Statement of Common Ground

between:

(1) DONG Energy Burbo Extension (UK) Ltd.
(2) Ministry of Defence Safeguarding – Defence Infrastructure Organisation
(3) BAE Systems plc

Regarding interests in military aviation issues
for the proposed Burbo Bank Extension Offshore Wind Farm Order

Without prejudice

Planning Inspectorate Reference: EN010026
Final version (signed)
4 December 2013
Burbo Bank Extension offshore wind farm
DONG Energy Burbo Extension (UK) Ltd.

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Revision history

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<td>Amendments following meeting on 23 October 2013</td>
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<td>8 November 2013</td>
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Signatories

Signed

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For: DONG Energy Burbo Extension (UK) Ltd.
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Table of Contents

1. Summary ............................................................................................................................................. 4
2. The Proposed Development .................................................................................................................. 4
3. Structure and Content of Statement ................................................................................................... 5
4. DCO Application Elements under the MoD's Remit ......................................................................... 5
5. Consultation ......................................................................................................................................... 5
6. Response to Examining Authority’s Rule 8 Questions ......................................................................... 9
7. Summary of Areas of Agreement ....................................................................................................... 10
8. Summary of Areas of Disagreement .................................................................................................. 10
9. Appendices ......................................................................................................................................... 11
1. **Summary**

1.1 This Statement of Common Ground (‘SoCG’) document has been prepared by DONG Energy Burbo Extension (UK) Limited (‘DONG Energy’ or ‘the Applicant’), the Ministry of Defence (‘MoD’), and BAE Systems plc (‘BAE Systems’) as a means of clearly stating the areas of agreement, and any areas of disagreement, between the Applicant and the latter two parties in respect of the Applicant’s application for a Development Consent Order (‘DCO’) made to the Planning Inspectorate under the Planning Act 2008 (‘the Application’) and dated 22 March 2013.

2. **The Proposed Development**

2.1 The DCO Application is for development consent to construct and operate the proposed Burbo Bank Extension offshore wind farm (‘the Project’). The Project is situated approximately 7 km off the coast of Hoylake, Wirral and 12 km from the Point of Ayr, Wales.

2.2 The DCO, if made, will be known as the Burbo Bank Extension Offshore Wind Farm Order. It will comprise the following elements:

   a) Offshore wind turbine generators (WTG) and foundations (up to a maximum 69 WTGs at up to 200 metres rotor diameter to provide an installed capacity of maximum 258 MW);
   b) Up to one offshore substation;
   c) Undersea cables between the wind turbines and offshore substation;
   d) Undersea export cables in English waters to transmit electricity from the offshore substation and;
   e) Such ancillary, incidental and consequential provisions, licences, permits and consents as are necessary and/or convenient, including a deemed marine licence for those parts of the Project in English waters.
3. **Structure and Content of Statement**

3.1 This SoCG has been structured to reflect topics of interest to the MoD and BAE Systems and the topics raised within the PINS Rule 8 letter and additional informal consultation.

3.2 This SoCG is intended to outline matters of factual background to the Project and identifies those areas where there is agreement and disagreement between the Applicant and the MoD and BAE Systems on matters of interest to MoD (see Section 4), and specifically in relation to matters concerning the Project’s potential to cause interference with the Air Traffic Control (‘ATC’) radar at Warton Aerodrome (‘Warton’), located 41.01km away from the nearest WTG of the proposed Project.

3.3 This SoCG relies on and refers to the history of communication between the Applicant and the MoD since July 2010 and includes consultation responses from the MoD (see Section 5).

3.4 Throughout this SoCG the phrase “It is agreed…” is used as a precursor to any point of agreement that has been specifically stated by agreement between the Applicant and the MoD.

3.5 This SoCG deals with only those matters relevant to the DCO Application. It does not seek to address any matters relating to the separate Marine Licence application in Welsh waters, although where disagreements relating to those aspects exist they are noted for information only.

4. **DCO Application Elements under the MoD’s Remit**

4.1 MoD safeguarding is administered by the Defence Infrastructure Organisation Safeguarding team and ensures operational facilities such as aerodromes, explosive stores, radar facilities and range areas are not compromised by either onshore or offshore development. It is the formal consultation process through which the MoD is engaged on development proposals, including those for wind turbines.

4.2 The primary areas of focus for the MoD in relation to the Project’s application throughout the pre-application consultation process relates to any potential for the Project to cause ATC radar interference around the Project area.

5. **Consultation**

**Summary**

5.1 The Applicant engaged with MoD on the Project during the pre-application process, through informal non-statutory engagement and formal consultation carried out pursuant to Section 42 of the Planning Act 2008.

5.2 The Applicant first consulted with the MoD regarding a proposal for 85 turbines at 165.5m to blade tip height in April 2010 with the first meeting between the parties on the 19 July 2010, before The Crown Estate had awarded the Agreement for Lease to the Applicant. Following this meeting the MoD confirmed that following an assessment there were no concerns with the proposal for 85 turbines at 165.5m to blade tip height other than the requirement for the turbines to be lit for aviation safety reasons.
5.3 In March 2011, the MoD was consulted for a scoping opinion for turbines smaller than the current Project, and informed the Applicant generally as to the principal safeguarding concerns including ATC and the requirement for aviation warning lights. In Dec 2012, the Applicant consulted the MOD regarding a proposal of up to 75 turbines at 225m to blade tip height. The MOD conducted an assessment and, on 7 January 2013, the MoD objected to the proposal based on the unacceptable interference to the ATC radar at Warton, in Lancashire near the town of Lytham St Annes (see Appendix 9.1 for MoD consultation response).

5.4 A range of military and civilian aircraft operate from the airfield at BAE Systems Warton and undertake flying tasks in support of MoD projects. The MoD safeguards Warton regarding the flying tasks in support of MOD projects and contracts. BAE Systems Warton own and operate the ATC radar and manage all airfield operations. The ATC radar at Warton is manufactured by Selex ES ('Selex'), with whom BAE Systems have a through life support contract.

5.5 The Applicant, the MOD and BAE Systems met on 4 April 2013 to discuss the objection, the requirement for mitigation and the potential mitigation options for the project. At this meeting DONG Energy, Osprey Consulting Services Ltd (CSL) (the Applicants contracted aviation consultants), DIO and BAE Systems took an action to seek to engage Selex ES in the process of identifying suitable mitigation solutions involving the ATC Primary Surveillance Radar (PSR). It was agreed that technical discussions of any mitigation options were to be led between BAE Systems, Selex ES and Osprey CSL. Additionally DONG Energy / Osprey CSL took an action to develop a market study looking at potential mitigation solutions (including products like C-Speed, Aveillant, Terma etc.).

5.6 At a further meeting on 4 September 2013, it was agreed that the MoD on behalf of BAE Systems would provide a detailed written statement qualifying, and where possible quantifying, the operational and technical parameters underlying the objection received by DONG Energy from the MoD against the Project.

5.7 The MOD responded to the Applicant on 27 September 2013 in the form of a letter (see Appendix 9.2).

5.8 The MoD wrote to the Planning Inspectorate on 24 September apologising for not being able to attend the Project's preliminary meeting on the 26 September. Subsequently the MoD has been given the status of 'other party' to the Examination of the Project, akin to that of an interested party.

5.9 The Applicant responded to the MoD on 10 October 2013 (see Appendix 9.3) with the view that the information provided in the MoD letter dated 27 September 2013 had not provided the Applicant with enough detail to be confident that the objection was sufficient to warrant a need for the Applicant to mitigate the Project.

5.10 On 23 October, a meeting was held with BAE Systems, the MoD, the Applicant and Osprey CSL so that the Applicant could better understand the basis of the objection to the Project, and in order that any required mitigation could be discussed, and next steps agreed to secure agreement.

5.12 At this meeting BAE Systems provided a detailed explanation to the Applicant of the wide range of Warton flying activities as well as the suite of services that Warton ATC provide to ensure the safest possible flying environment. The need to protect a fillet of airspace called “the Warton Fillet” and which is made available to Warton by means of a Flexible Use of Airspace agreement and which lies immediately North of the Project, was explained in detail. The overall provision of Air Traffic Services Outside Controlled Airspace (ATSOCAS) including Warton’s responsibility to deliver a Lower
Airspace Radar Service (LARS) was also outlined and explained. Following this explanation, it was agreed by the Applicant that either a technical or operational mitigation would be required to offset the concerns of MoD and BAE Systems as set out in the MoD’s objection. All mitigation proposals outlined within CAP 764 chapter 4 that are relevant to the Warton ATC operation were discussed. A shortlist of technical and operational mitigation options were then selected for more detailed assessment. At the meeting on 23 October 2013 it was concluded that there were two candidate options that had the potential to mitigate the negative effects of the Project. For completeness, the shortlist of mitigation options that were assessed are listed in the following section, including those that were rejected as well as the two candidate options highlighted for further consideration.

5.13 Reduction in ATSOCAS

A reduction in the provision of ATSOCAS within 5nm of the Project would be required; it may be that BAE Systems are forced to remove ATSOCAS completely in the area due to the degraded radar performance. This option is not considered appropriate by the Applicant and the MoD/BAE Systems for the following reasons:

- Arriving/departing aircraft to Warton, Blackpool and Barrow route through the area of concern.
- Test and development flying takes place in the area immediately to the North of the Project.
- Aircraft receiving a service under LARS route through the area.
- If the LARS is removed from the area directly over the wind farm and in a 5nm radius around the Project, the airspace will remain uncontrolled class G, but ATC service provision would be seriously degraded for any aircraft operating in the area.
- LARS is provided to aircraft operating outside of controlled airspace to enhance flight safety. The removal of this important service in an area of congested airspace that accommodates civil aircraft, military aircraft and general aviation would erode levels of flight safety. In addition the Warton Fillet area of airway L70 would still be affected and the area within the fillet available for flight testing would be reduced.
- LARS has wider safety implications beyond the immediate airspace around the Project and there is a risk that any local reduction in the provision of LARS may lead to the complete removal of the Warton LARS contract, if BAE Systems were unable to satisfy the CAA that they were able to continue to provide an effective service.

5.14 Suppression of Track Initiation

Suppression of track initiation, as detailed in CAP 764 section 4.68, is where the tracking processor of the radar can reject any track that has initiated from within a pre-selected area (i.e. a wind farm location). This would stop any tracks that were initiated in the pre-selected area from being displayed, but any existing aircraft track that started outside of the pre-selected area would be allowed to pass through and still be displayed to the controller.

This option has been rejected by BAE Systems due to the size of the area. Further whilst false tracks would be prevented from forming, existing aircraft tracks could still be seduced by the turbines. This is where genuine aircraft returns can be confused with returns from the turbine and display incorrect positions to the controller, as described within CAP 764 section 4.64 to 4.67. In addition if helicopters are used for servicing wind turbines they would not be tracked when operating inside the zone. The Applicant has no specific plans to use helicopters for construction or maintenance of the turbines, but has not ruled out this option in the future.
5.15 **Introduction of a Radio Mandatory Zone**

A Radio Mandatory Zone (RMZ) could be created, that requires aircraft to be in two way communication with ATC and provide information pertinent to the flight prior to entering the designated airspace.

The proposal has been rejected by BAE System as it provides insufficient mitigation. Although ATC would be able to provide some level of control to traffic in the area, it would not prevent false and seduced tracks from being displayed, with the associated loss of situational awareness. This operational mitigation does not go far enough to reduce the risk of collision as ATC would not be able to effectively provide separation between aircraft. The implementation of a RMZ would need to be in accordance with CAP 725 – Airspace Change Process Guidance and ultimately may not be approved by the CAA.

5.16 **Introduction of a Transponder Mandatory Zone**

A Transponder Mandatory Zone (TMZ) could be created that requires aircraft to either carry an operational transponder or obtain ATC approval when flying within this designated airspace. This provides potential mitigation because it uses SSR to distinguish aircraft from the primary returns of the turbines or to distinguish aircraft from the blanked primary radar information (NAIZ). In this case any aircraft flying in the vicinity of the Project should be either visible to or in radio contact with Warton ATC creating a known air traffic environment which ATC can use for the purposes of ATSOCAS. A known traffic environment would enhance safety along the southern boundary of the area used for flight testing within the Warton Fillet.

However, there are drawbacks associated with implementing a TMZ, as follows:

- The implementation of a TMZ would need to be completed in accordance with CAP 725 – Airspace Change Process Guidance. This could potentially be a long and costly process to complete involving multiple stakeholders and ultimately may not be approved by the CAA.
- The implementation of a TMZ may be unpopular with general aviation.
- Aircraft may choose to route around the TMZ, changing traffic patterns and ATC workload in this area.
- Secondary Surveillance Radar (alone)/reduced ATSOCAS service provision would have to apply particularly when there are primary radar returns in the vicinity and/or produced by the wind turbines. Cognisance would need to be taken of unknown aircraft that had inadvertently penetrated the TMZ, aircraft that are lost and aircraft suffering radio failure.

5.17 **In-fill Radar**

A potential technical mitigation is to utilise in-fill radar. This is where the area of the Project is blanked on the Warton radar, so no returns from the area are processed. The surveillance picture is then infilled using a feed from either:

- An existing 2D radar that does not have line of sight to the turbines because they are shielded by physical obstructions i.e. buildings or hills
- A new 2D radar that can differentiate between wind turbine and aircraft
- A new type of 3D holographic radar that can differentiate between wind turbines and aircraft
In-fill radar has the potential to present a complete picture to ATC that is free from false tracks and existing tracks cannot be seduced. This is because the returns from the turbines are either not visible to the 2D radar or rejected by the 3D radar. This mitigates the problem around the provision of ATSOCAS in the area, as the in-fill radar can be used to provide air traffic services. This also mitigates the issue around the reduction of usable test flying airspace within the Warton Fillet in airway L70.

The use of 2D radar would have technical challenges around using a feed from radar in a different location and incorporating it into the existing Warton radar and positioning the returns correctly. The use of 3D holographic radar does carry some risk, as it is a relatively new technology that has yet to be successfully embedded within existing ATC radar and approved for use. The Applicant would need to work closely with Selex ES to ensure the solution is technically feasible and capable of achieving a CAA approved safety case.

5.18 The MOD seeks suitable mitigation to be secured as a Project requirement within Schedule 1 Part 3 of the DCO. It was agreed at the meeting on 23rd October 2013 between the MoD, BAE Systems, DONG Energy and Osprey CSL that the only two viable mitigation options so far identified, are the implementation of a TMZ or In-fill radar. The creation of a TMZ or the provision of In-fill Radar integrated into the Warton PSR are potential mitigation options that should continue to be considered by the Applicant, and if necessary secured by an appropriate planning requirement in the DCO and a commercial agreement being put in place between BAE Systems, Selex ES and the Applicant prior to the implementation of the Project.

5.19 The first draft SoCG was provided on 22 October 2013 in advance of the meeting with the MoD and BAE Systems on the 23 October. MOD and BAE Systems did not have appropriate time to review and provide comments on the SoCG prior to the meeting on the 23 October, for this reason it was agreed that the SoCG would not be reviewed at the meeting. The second draft SoCG, amended following the meeting, was provided on the 31 October incorporating the areas of agreement from the 23 October meeting.

6. Response to Examining Authority’s Rule 8 Questions

6.1 In response to Question 10.1 of the Rule 8 letter addressed to all interested parties: “Has the applicant appropriately identified other projects with which to assess cumulative and in combination effects?”

6.2 With respect to military aviation and defence radar concerns, it is agreed the Project has appropriately identified all other projects with which to assess cumulative and in-combination effects and has adequately done so.
7. **Summary of Areas of Agreement**

7.1 It is agreed that, based on the MoD’s objection to the Project on 7 January 2013, the Project will have an unacceptable impact on ATC radar at Warton. This radar is owned and operated by BAE Systems, and the MoD is responsible for the provision of a safeguarding service appertaining to the MOD related projects and contracted services to BAE Systems at Warton.

7.2 It is agreed that the impact on the ATC radar at Warton is identified as unacceptable, and that technical mitigation is required with either the creation of a TMZ or the provision of infill radar.

7.3 The MOD requests that all perimeter turbines be lit with 200 candela lighting for aviation safety reasons. However, the lighting requirements of other consultees will exceed that of the MOD. It is agreed that, as per the existing lighting conditions specified in the DCO, the Applicant shall exhibit such lights, with such shape, colour and character as are required by Air Navigation Order 2009, or as directed by the CAA. At the time of writing, Article 220 of the Air Navigation Order 2009 (CAP 393), Section 5.8 of CAP 764, and the CAA publication entitled ‘The Lighting of Wind Turbine Generators in UK Territorial Waters’, define the requirement for "medium intensity (2,000 candela) steady red lighting mounted on the top of each nacelle." In addition, infra-red lights may be installed to supplement the medium intensity red lights if required by the MoD. There is a future possibility that instead of using a steady red light, the aviation warning lights will use flashing red lighting displaying a Morse code “W”. This is to ensure that the aviation lighting is clearly distinguishable from maritime lighting. As with the navigation lighting, if flashing lighting is used, the lights will display synchronised flashing characteristics.

8. **Summary of Areas of Disagreement**

8.1 There are no other outstanding matters that have not been agreed between the Applicant, the MOD and BAE Systems with respect to the Project.
9. Appendices

9.1 MoD’s Response to the Project’s Draft ES consultation (January 2013)

Hywel Roberts  
DONG Energy  
33 Grosvenor Place  
Belgravia  
SW1X 7HY  

Dear Mr Roberts  

Please quote in any correspondence: DIO17730

Site Name: Burbo Bank Extension

Site Address: Offshore

Thank you for consulting the Ministry of Defence (MOD) about the above planning application in your communication dated 18 December 2012.

I am writing to inform you that the MOD objects to the proposal. Our assessment has been carried out on the basis that there will be between 30 and 75 turbines, up to 225 metres in height to blade tip and located within the grid references below as stated in your correspondence dated 18 December 2012:

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### Air Traffic Control (ATC) Radar

The turbines will be 41.01km from, detectable by, and will cause unacceptable interference to the ATC radar at Warton.

Wind turbines have been shown to have detrimental effects on the performance of MOD ATC and Range Control radars. These effects include the desensitisation of radar in the vicinity of the turbines, and the creation of “false” aircraft returns which air traffic controllers must treat as real. The desensitisation of radar could result in aircraft not being detected by the radar and therefore not presented to air traffic controllers. Controllers use the radar to separate and sequence both military and civilian aircraft, and in busy uncontrolled airspace radar is the only sure way to do this safely. Maintaining situational awareness of all aircraft movements within the airspace is crucial to achieving a safe and efficient air traffic service, and the integrity of radar data is central to this process. The creation of “false” aircraft displayed on the radar leads to increased workload for both controllers and aircrews, and may have a significant operational impact. Furthermore, real aircraft returns can be obscured by the turbine’s radar returns, making the tracking of conflicting unknown aircraft (the controllers’ own traffic) much more difficult.

If the developer is able to overcome the issues stated above, the MOD will request that all perimeter turbines be fitted with 200 candela omni-directional aviation lighting.

MOD Safeguarding wishes to be consulted and notified about the progress of planning applications and submissions relating to this proposal to verify that it will not adversely affect defence interests.

I hope this adequately explains our position on the matter. Further information about the effects of wind turbines on MOD interests can be obtained from the following website:

**MOD:** [http://www.mod.uk/DefenceInternet/MicroSite/DIO/WhatWeDo/Operations/ModSafeguarding.htm](http://www.mod.uk/DefenceInternet/MicroSite/DIO/WhatWeDo/Operations/ModSafeguarding.htm)

Yours sincerely

Beverly Fletcher
Assistant Safeguarding Officer – Wind Energy
Defence Infrastructure Organisation

**SAFEGUARDING SOLUTIONS TO DEFENCE NEEDS**
9.2 MoD’s Objection Statement Letter – 27 September 2013

Defence Infrastructure Organisation

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Vanessa O’Connell
DONG Energy (UK) Ltd
Commercial Manager
Renewables UK Project Development
33 Grosvenor Place
London
SW1X 7HY
UK

27th Sept 2013

Dear Vanessa,

Burbo Bank Extension and Walney Extension

Further to the meeting/teleconference of the 4th Sept, please find below further information regarding the MOD objections to the Burbo Bank Extension and Walney Extension wind farm proposals.

Burbo Bank Extension

Warton’s coastal location, adjacent to extensive controlled airspace, makes it unmatched in its ability to support a wide range of complex, flexible and state of the art flight test activities in the UK. The MOD and other customers depend on BAE Systems Warton for the timely delivery of high specification military capability, with this also comes the responsibility to support front line military operations including Tornados and Typhoons. The fast jet military aircraft conducting test and development sorties operate in accordance with predetermined schedules to ensure that appropriate test data can be gathered. Warton ATC has autonomous radar status to facilitate this flying requirement. The pilots rely on BAE Systems Warton Air Traffic Controllers to provide them with either a Radar Control Service,Devonshire Service or Traffic Service in the vicinity of Warton. The purpose of these services is to assist with navigation and the maintenance of a safe separation between aircraft. In order to achieve this, BAE Systems Warton provides a Lower Airspace Radar Service (LARS) to any aircraft within 40 nautical miles of Warton.

The Burbo Bank extension lies beneath controlled airspace (both class A and class D) which has a lower limit of 2000 feet AMSL to the east rising to 3500 feet on the western edge of the proposed development. Warton has autonomy to cross test flights through this portion of controlled airspace without co-ordination so it is imperative that the performance of the Warton radar is not impaired by these turbines.

In order to enhance safety, Warton provides a LARS. This proposed development lies below controlled airspace in an area of class G airspace which is predominantly used by military aircraft either leaving/joining the low flying area in Wales, many routing too/from the Lake District and private pilots flying west of Liverpool in order to avoid the Manchester Low Level Corridor. It is important to ensure there is no deterioration in the detection capability of the Warton radar in this particular area. It is also essential that
there is no increase in false plots, thus ensuring that only real aircraft are displayed in a timely manner to Warton ATC so that they can de-conflict these activities with local traffic.

The effects of turbines on PSR (primary surveillance radar) and SSR (secondary surveillance radar) are detailed in the CAA Policy and Guidelines on Wind Turbines CAP 764. Wind turbines located within PSR coverage can reduce the ability of the PSR to detect targets as the turbines offer a large reflecting target to the radar, reducing its ability to detect aircraft.

Further impacts on radar are:

- False returns causing false target generation and track seduction
- Loss of Receiver Sensitivity
- Plot Extractor/Filter Memory Overload
- Presenting an Obstruction (Shadow)
- Receiver Saturation

Each of these reduces the effectiveness of the radar in detecting targets, which can result in misidentification of aircraft, loss of track position, loss of track identity and false plots. These in turn can potentially cause serious safety and operational issues. The most significant impact on the BAE Systems Warton ATCR-44S radar and its operational environment from wind turbines, is the risk of false radar returns causing false target generation and track seduction. False or seduced tracks (which in many cases are indiscernible from real tracks) may cause disruption by forcing Air Traffic Controllers to take action in order to maintain radar separation in accordance with standards mandated by the CAA when providing an AT30CA3. Any loss of radar performance in this area along with any misleading or unnecessarily distracting displayed radar information have the potential to erode levels of safety. In this area the actions may require re-routing traffic or avoiding controlling aircraft in areas of known performance degradation. This in turn will lead to:

- Erosion of safety
- Unacceptable delays to MOD Urgent Operational Requirements
- Associated loss of business and commercial penalties for late delivery
- Increased fuel burn and excessive carbon emissions.

Walney Extension

Warton's coastal location, adjacent to extensive controlled and uncontrolled airspace, makes it unmatched in its ability to support a wide range of complex, flexible and state of the art flight test activities in the UK. The MOD and other customers depend on BAE Systems Warton for the timely delivery of high specification military capability; with this also comes the responsibility to support front line military operations including Tornadoes and Typhoons. The fast jet military aircraft conducting test and development sorties operate in accordance with predetermined schedules to ensure that appropriate test data can be gathered. Warton ATC has autonomous radar status to facilitate this flying requirement and we have established supersonic corridors, one of which routes between Kirkcudbright and the Welsh coast and within close proximity of the north western extremity of the Walney extension. The extension also infringes the eastern boundary of AARA 13, a refuelling area that is controlled by the RAF and by Warton ATC during testing by Warton aircraft. The pilots rely on BAE Systems Warton Air Traffic Controllers to provide them with either a Radar Control Service, Deconflict Service or Traffic Service. The purpose of these services is to assist with navigation and the maintenance of a safe separation between aircraft. Test flying can be flown both inside and below controlled airspace so it is imperative that the performance of the Warton radar is not impaired by the Walney extension turbines. Aircraft routinely fly from the Isle Of Man/Northern Ireland direct to Blackpool/Leeds. It is important to ensure there is no deterioration in the detection capability of the Warton radar and also no increase in false plots, thus ensuring that only real aircraft are displayed in a timely manner to Warton ATC so that they can de-conflict these activities with local traffic. In order to achieve this, BAE Systems Warton provides a Lower Airspace Radar Service (LARS) to any aircraft below FL100 and within 40 nautical miles of Warton who wishes to receive a service, and to any aircraft operating up to FL195 flying within the Warton Advisory Radio Area.

The effects of turbines on primary surveillance radar (PSR) and secondary surveillance radar (SSR) are detailed in the CAA Policy and Guidelines on Wind Turbines CAP 764. Wind turbines located within PSR...
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- Erosion of safety
- Unacceptable delays to MOD Urgent Operational Requirements
- Associated loss of business and commercial penalties for late delivery
- Increased fuel burn and excessive carbon emissions.

I hope this adequately explains the MOD position on the matter. If you require further information or would like to discuss this matter further please do not hesitate to contact me.

Further information about the effects of wind turbines on MOD interests can be obtained from the following websites:

MOD: [http://www.mod.uk/DefenceInternet/MicroSite/DIO/WhatWeDo/Operations/ModSafeguarding.htm](http://www.mod.uk/DefenceInternet/MicroSite/DIO/WhatWeDo/Operations/ModSafeguarding.htm)

Yours sincerely

Desmond Egan
Senior Safeguarding Officer
Defence Infrastructure Organisation

SAFEGUARDING SOLUTIONS TO DEFENCE NEEDS
9.3 MoD DIO’s Objection Qualification – October 2013

Dear Desmond,

DONG Energy Burbo Extension (UK) Ltd – Response to MOD DIO Objection Qualification to Burbo Bank Extension

Further to your letter to DONG Energy in regard to further information on the MoD objections to the Burbo Bank Extension wind farm proposals, please find below further points of clarification which we would like to discuss further with BAE Systems. For ease of reference, we have provided cross sections of the airspace above Burbo Bank Extension as an appendix to this letter.

Burbo Bank Extension
Our primary concern is that the information presented is not sufficient for DONG Energy to understand what mitigation, if any, would be appropriate for the Burbo Bank Extension wind farm.

We understand that Warton have two elements to their service provision outside of controlled airspace (CAS): the generic Lower Airspace Radar Service (LARS) provision and an Advisory Radio Area (ARA). The purpose of the ARA is to provide additional protection to aircraft carrying out the high energy manoeuvres associated with the Test and Development activities at Warton, as any pilots operating within the confines of the ARA are strongly recommended to receive an Air Traffic Service (ATS) from Warton. DONG Energy understands that the dimensions of this airspace were reduced in 2008 due to lack of resources to provide the service throughout the larger area. The National Air Traffic Management Advisory Committee (NATMAC) Informative Letter issued 10 December 2008 stated that: “Warton will provide an ATSDCAS to aircraft in transit through the ARA and, on request, within the LARS area subject to controller workload.” The priority in the application of service clearly lies within the ARA. Burbo Bank Extension lies outside the ARA.

We believe that Warton’s primary concern is therefore the ability to provide LARS in the vicinity of the Burbo Bank Extension. We understand that the main objective of LARS is to provide an ATS to aircraft operating around a particular aerodrome, so as to coordinate movements and create an ‘informed environment’. LARS provides an additional layer of safety to those using the airspace.
DONG Energy would therefore like to discuss with Warton the following:

- Can Warton confirm where the “predetermined sorties” take place, and to what numbers, so that we can better understand the type of activities which take place around the Burbo Bank Extension wind farm, and to what extent they are predetermined?
- Can Warton confirm where it provides a Radar Control Service below FL105?
- Can Warton quantify the Deconfliction Service or Traffic Service provided at present in the vicinity of the development, or could Warton start to gather this data now?
- Can Warton confirm amount of testing completed over the Welsh land mass (as distinct from Cardigan Bay farther to the west)?

We understand that Warton has autonomy to cross test flights through the portion of CAS above the Burbo Bank Extension without co-ordination with other units. As all aircraft have to be transponding whilst travelling in CAS, Warton will be aware of any other traffic also transiting through CAS above the Wind Farm, as the aircraft will be detected by their SSR system.

The letter states that the wind farm “lies below controlled airspace in an area of class G airspace which is predominantly used by military aircraft either leaving/joining the low flying area in Wales, many routing to/from the Lake District.” We would ask that Warton qualifies and quantifies this statement so that we can better understand the nature of their operations. The MOD has also identified the area around Burbo Bank Extension as ‘an area with no military low flying concerns’ on the map which was published as an Aviation Safeguarding Map by the Department of Energy and Climate Change (DECC). Whilst noting that the map is not intended as a binding statement of MOD procedure or policy, it has been published for the purpose of offering guidance about locations likely to be problematic for the military low flying system.

From the information presented to date alone, DONG Energy concludes that the argument supporting mitigation on the basis of LARS alone is weak. The focus of Warton activities is within the ARA, unless Warton have a specific route which is regularly used for Warton aircraft to transit to/from other areas where they conduct activities (i.e. Wales).

Concluding thoughts

The information set out in your letter dated 27 September 2013 has not provided DONG Energy with enough detail to be confident that the requirement to provide LARS is sufficient to mitigate Burbo Extension wind farm. Nor has it provided enough detail for DONG Energy to be confident of the type of mitigation, if any, required for the two wind farm extensions.

Our initial conclusion therefore is that there is not sufficient evidence to suggest primary radar mitigation is required for Burbo Bank Extension wind farm. We would like to further discuss this with Warton directly, to better understand their concerns and work
together to identify suitable mitigation if appropriate.

We would like to discuss these issues at the earliest opportunity with Warton and Osprey, our aviation advisors.

Yours sincerely,

[Signature]

Vanessa O'Connell
Commercial Manager
Burbo Bank Extension offshore wind farm
Appendix – Cross section of airspace above Burbo Bank Extension wind farms

Airspace Cross-Section above the Burbo Bank Extension viewed from south to north