



Ministry of Defence

Secretariat
Defence Infrastructure Organisation
Kingston Road
Sutton Coldfield
B75 7RL

E-mail: diosec-pari@mod.uk
www.gov.uk/DIO

Ref. FOI2015/04585

16 June 2015

Dear [redacted]:

Thank you for your email of 22 May 2015 requesting the following information:

"Could you please supply all papers, notes, e-mails, documents, Reports, graphs, analyses, etc relating to the Ref- A140863- Turbine at Land at Bannauduon proposal and the associated MOD objection. If necessary please consider this an FoI request"

I am treating your correspondence as a request for information under the Freedom of Information Act 2000 (FOIA).

A search for the information has now been completed within the Ministry of Defence, and I can confirm that all of the information in scope of your request is held.

The information in scope of your request can be found attached but some of the information falls entirely within the scope of the absolute exemptions provided at section 40 (Personal Data), and therefore personal information has been redacted.

Section 40(2) has been applied to some of the information in order to protect personal information as governed by the Data Protection Act 1998. Section 40 is an absolute exemption and there is therefore no requirement to consider the public interest in making a decision to withhold the information.

I attach the following documents:

- Email consultation from Ceredigion County Council dated 6th January 2015
- Email consultation to MOD technical advisors dated 7th January 2015
- Email response from DES ADATS confirming concerns, includes the technical report for Bannauduon dated 8th January 2015
- Email response from Navy confirming no concerns dated 8th January 2015
- RAF letter confirming no objection dated 9th January 2015
- Email from DES Wpns TEST confirming objection dated 30th January 2015
- Email and objection letter from MOD to Ceredigion County Council dated 9th February 2015
- Email to [redacted] from MOD dated 9th February 2015

- Email from [redacted] to MOD dated 18th February 2015
- Email consultation to MOD technical advisors requesting reassessment dated 3rd March 2015
- Email response from Des ADATS confirming no concerns, includes the technical report for Bannauduon dated 3rd March 2015
- RAF letter confirming no objection dated 3rd March 2015
- Email response from Navy confirming no concerns dated 4th March 2015
- Email response between MOD and QinetiQ dated 5th & 6th March 2015
- Email between MOD and DES Wpns TEST dated 18th March 2015
- Email between DES Wpns TEST and QinetiQ dated 18th March 2015
- Email from MOD to DES Wpns TEST dated 27th March 2015
- Email consultation from Ceredigion County Council advising application withdrawn dated 21st April 2015
- Email from [redacted] to MOD referencing FOI dated 22 May 2015

I can confirm that no other information is held in relation to this case. It is understood that you advised DIO by telephone in March 2015 that whilst you had provided a new grid reference and a reassessment requested; a turbine in the new location would not be viable for the business to move the turbine and that the original location was the preferred option. The MOD then received confirmation that the application had been withdrawn. With regards to the application that has since been withdrawn, the MOD's objection remains extant.

Yours sincerely,

DIO Secretariat

If you are not satisfied with this response or you wish to complain about any aspect of the handling of your request, then you should contact DIO Secretariat in the first instance. If informal resolution is not possible and you are still dissatisfied then you may apply for an independent internal review by contacting the Information Rights Compliance team, 1st Floor, MOD Main Building, Whitehall, SW1A 2HB (e-mail CIO-FOI-IR@mod.uk). Please note that any request for an internal review must be made within 40 working days of the date on which the attempt to reach informal resolution has come to an end.

If you remain dissatisfied following an internal review, you may take your complaint to the Information Commissioner under the provisions of Section 50 of the Freedom of Information Act. Please note that the Information Commissioner will not investigate your case until the MOD internal review process has been completed. Further details of the role and powers of the Information Commissioner can be found on the Commissioner's website, <http://www.ico.org.uk>.

From: [mailto:planning@ceredigion.gov.uk] [mailto:planning@ceredigion.gov.uk]
Sent: 06 January 2015 15:38
To: [mailto:planning@ceredigion.gov.uk]
Cc: Ceredigion Planning
Subject: Planning Consultation A140863 Land at Bannauduon, Llanarth
Attachments: Standard consultation letter.pdf

Gweler ar y wefan gwybodaeth am y cais uchod
Please see website to view details of the above application

<http://www.ceredigion.gov.uk/index.cfm?articleid=10054h>



Gwasanaethau Ffordd o Fyw / Lifestyle Services
Cyngor Sir Ceredigion / Ceredigion County Council
Ffôn / Tel No:

Ymwadiad:

Er y cymerir pob gofal posib i sicrhau cywirdeb unrhyw wybodaeth a chyngor a roddir yn yr ohebiaeth hon, ni dderbynnir atebolrwydd am unrhyw golledion a all godi o unrhyw gamgymeriadau sy'n gynwysedig ac fe'ch atgoffir o'r angen i chi ofyn am gyngor proffesiynol eich hun.

Bwriedir y neges ebost hon, ac unrhyw atodiadau iddi, at sylw'r person(au) y'i danfonwyd atynt yn unig. Os nad chi yw'r derbynnydd y cyfeiriwyd y neges hon ato ef neu hi, neu'r person sydd gyfrifol am drosglwyddo'r neges hon iddo ef neu hi, mi ddylech hysbysu'r anfonwr ar eich union. Oni bai mai chi yw'r person neu gynrychiolydd y person y cyfeiriwyd y neges hon at ef neu hi nid ydych wedi eich awdurdodi i, ac ni ddylech chi, ddarllen, copio, dosbarthu, defnyddio na chadw'r neges hon nac unrhyw gyfran ohoni.

O dan y Ddeddf Amddiffyn Data 1998 a Deddf Rhyddid Gwybodaeth 2000 gellir datgelu cynnwys y neges ebost hon.

Disclaimer:

While reasonable care is taken to ensure the correctness of any information and advice given in this correspondence no liability is accepted for losses arising from any errors contained in it and you are reminded of the need to obtain your own professional advice.

The information in this email and any attachments is intended solely for the attention and use of the named addressee(s). If you are not the intended recipient, or person responsible for delivering this information to the intended recipient, please notify the sender immediately. Unless you are the intended recipient or his/her representative you are not authorised to, and must not, read, copy, distribute, use or retain this message or any part of it.

Under the Data Protection Act 1998 and the Freedom of Information Act 2000 the contents of this email may be disclosed.

12/06/2015

Cyngor Sir CEREDIGION County Council

Huw Williams
Pennaeth y Gwasanaethau Ffordd o Fyw /
Head of Lifestyle Services

Nesudd Cyngor Ceredigion, Penmorfa, Aberaeron, SA46 0PA
www.ceredigion.gov.uk



I / To:

Defence Estates - Wind Turbines
Defence Estates Safeguarding
1c1a
Kingston Road
Sutton Coldfield
West Midlands B75 7RL

Rhif y Cais
Application No
Swyddog Achos
Case Officer
Rhif Ffôn
Telephone

A140863

Dyddiad / Date

06 January 2015

Annwyl Syr / Fadam
Dear Sir / Madam

Ymgynghoriad / Consultation

Ymgeisydd / Applicant

Y Bwriad / Proposal Installation of 48m high (to blade tip) 225kw wind turbine

Safle / Location Land at Bannau duon, Llanarth

Cyfeirnod grid / Grid ref: 242037 253518

Derbyniwyd y cais hwn yn y swyddfa yma ar 17/10/2014.

A fydech cystal â nodi isod unrhyw sylwadau sydd gennych ynglyn â'r cais (gallwch ddefnyddio'r cefn hefyd os bydd angen) a'u hanfon yn ôl i'r swyddfa yma cyn pen 21 niwrnod o'r dyddiad a nodwyd ar y llythyr hwn. Os na cheir ateb o fewn y cyfnod hwn cymerir yn ganiataol nad oes gennych unrhyw sylwadau.

The above application was received in this office on 17/10/2014.

Will you please enter any observations you have on the application in the space below (also use the reverse side if necessary) and return it to this office within 21 days of the date of this letter. If a response is not received within this period it will be assumed that you have no comments.

Yr eiddoch yn gywir / Yours faithfully

Pennaeth y Gwasanaethau Ffordd o Fyw
Head of Lifestyle Services
Cyngor Sir Ceredigion County Council



**Defence
Infrastructure
Organisation**

Ministry of Defence
Safeguarding – Wind Energy
Kingston Road
Sutton Coldfield
West Midlands B75 7RL
United Kingdom

Your Reference: A140863

Telephone [MOD]:

Our Reference: DIO 21766

Facsimile [MOD]:

E-mail:

Sir Ceredigion County Council

09/02/2015

Dear

Please quote in any correspondence: DIO 21766

Site Name: Land at Bannauduen

Planning Application Number: A140863

Site Address: Llanarth

Thank you for consulting the Ministry of Defence (MOD) about the above planning application in your communication dated 06/01/2015.

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 1 turbine, 48.01 metres in height from ground level to blade tip and located at the grid reference below as stated in the planning application or provided by the developer:

Turbine	100km Square letter	Easting	Northing
1	SN	42049	53548

Air Traffic Control (ATC) Radar

The turbine will be 18.162 km from, detectable by, and will cause unacceptable interference to the Range Control radar at Aberporth.

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 controllers. The creation of "false" aircraft displayed on the radar could result in testing operations being suspended unnecessarily. Furthermore, real aircraft returns can be obscured by the turbine's radar returns, making the detection of unauthorised traffic much more difficult.

The turbine will be close to the training area / range at Aberporth and will unacceptably affect military activities because of its implications on flight and range safety due to proximity to D201 Danger Area

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: <https://www.gov.uk/government/publications/wind-farms-ministry-of-defence-safeguarding>

Yours sincerely

Defence Infrastructure Organisation

SAFEGUARDING SOLUTIONS TO DEFENCE NEEDS

From:
Sent: 07 January 2015 15:22
To:
Subject: 20150107-DIO21766-Bannauduon-Urg
Importance: High
Attachments: WFS_ProForma_21766.xls

Please see attached details for the above planning consultation. Please respond by 25/01/2015

Kind Regards

"Produced by Defence Geographic Centre and No. 1 AIDU, JFIG, Ministry of Defence, United Kingdom 2014.

© UK MOD Crown Copyright 2014.

DGC furnished Data is supplied in the format and condition provided and is licensed for the purposes specified in the release conditions. DGC accepts no liability for any error or omission in the Data, or for any loss, damage, claims, proceedings or costs arising from the recipient's use of or reliance on the Data or from any modifications or alteration to the data or its format, to the full extent permitted by law. DGC accepts no liability for or arising from any elements of the DGC furnished Data provided by third parties.

Release Conditions

Authorisation has been granted for use of the Low Flying Charts by DIO, UK Defence, UK Government and UK MOD contractors to support UK MOD Safeguarding requirements ONLY. Each time data is supplied to a MOD contractor, it may only be used for the consultation the contractor is advising on. Disclosure or release to unauthorised individuals or organisations, or use for any purpose outside of UK MOD Safeguarding requirements, is NOT permitted without prior authorization from Copyright & Release, DGC Tel:

If DIO wishes to use this data at any forum relating to the consultation after the initial assessment stage, DIO must seek authorisation from Copyright & Release, DGC on a case by case basis.

This data must only be used or stored on official UK MOD Government systems, or other systems approved by DGC, accessible by authorised personnel only. It MUST NOT be placed on or transmitted via the Internet. This data MUST NOT be used for commercial purposes, resale or public distribution. When no longer required by DIO, UK defence, UK Government and MOD contractors to support UK MOD Safeguarding requirements, all copies of this data must be destroyed in a manner that prevents its reconstruction."

Defence

12/06/2015

1. The following information is provided for the year ended 31/12/2015:

2. The following information is provided for the year ended 31/12/2015:

Infrastructure
Organisation

From:
Sent: 08 January 2015 10:41
To:
Subject: 20150108-DIO 21766 Bannauduon URG Wind Farm
Importance: High
Attachments: WFS_ProForma_21766.xls; 20150108-DIO 21766 RADARS Bannauduon-RSP1d-O.doc

sent by
e-mail:
Tel.

From:
Sent: 08 January 2015 10:07
To:
Subject: FW: 20150107-DIO21766-Bannauduon-Urg
Importance: High

Concerns.

From:
Sent: 07 January 2015 15:22
To:
Subject: 20150107-DIO21766-Bannauduon-Urg
Importance: High

Please see attached details for the above planning consultation. Please respond by 25/01/2015

Kind Regards

"Produced by Defence Geographic Centre and No. 1 AIDU, JFIG, Ministry of Defence, United Kingdom 2014.

© UK MOD Crown Copyright 2014.

DGC furnished Data is supplied in the format and condition provided and is licensed for the purposes specified in the release conditions. DGC accepts no liability for any error or omission in the Data, or for any loss, damage, claims, proceedings or costs arising from the recipient's use of or reliance on the Data or from any modifications or alteration to the data or its format, to the full extent permitted by law. DGC accepts no liability for or arising from any elements of the DGC furnished Data provided by third parties.

Release Conditions

Authorisation has been granted for use of the Low Flying Charts by DIO, UK Defence, UK

12/06/2015

[IDE REF]

[WINDFARM NAME] HEADER INFORMATION

Company Name	Ceredigion County Council
Addr1	
Addr2	
Addr3	
County	
Postcode	
Contact	
Telephone	
Facsimile	
e-mail	
Wind Turbine Manufacturer	
Wind Turbine Model	
Wind Farm Generation capacity (MW)	0.25
No. Turbines	1
Blade Manufacturer	
No. of Blades	
Rotor Diameter (M)	34.97000122
Rotation Speed 1(RPM)	
Rotation Speed 2(RPM)	
Blade material	
Lightning Conductors	
Wind Turbine Hub Height (M)	30.82000046
Tower Design	
Tower base diameter 1 / dimensions (M)	
Tower base diameter 2 / dimensions (M) (if not round)	
Tower top diameter 1 / dimensions (M)	
Tower top diameter 2 / dimensions (M) (if not round)	
Comments	

IDE REF

WINDFARM NAME| HEADER INFORMATION

Company Name	Ceredigion County Council
Addr1	Department Of Environmental Services And Housing
Addr2	
Addr3	
Country	
Postcode	
Country	
Contact	
Telephone	
Facsimile	
e-mail	
Wind Turbine Manufacturer	
Wind Turbine Model	
Wind Farm Generation capacity (MW)	0.25
No. Turbines	1
Blade Manufacturer	
No. of Blades	
Polar Diameter (M)	34.97000122
Rotation Speed 1 (RPM)	
Rotation Speed 2 (RPM)	
Blade material	
Lightning Conductors	
Wind Turbine Hub Height (M)	30.52000046
Tower Design	
Tower base diameter 1 / dimensions (M)	
Tower base diameter 2 / dimensions (M) (if not round)	
Tower top diameter 1 / dimensions (M)	
Tower top diameter 2 / dimensions (M) (if not round)	
Comments	

Government and UK MOD contractors to support UK MOD Safeguarding requirements ONLY. Each time data is supplied to a MOD contractor, it may only be used for the consultation the contractor is advising on. Disclosure or release to unauthorised individuals or organisations, or use for any purpose outside of UK MOD Safeguarding requirements, is NOT permitted without prior authorization from Copyright & Release, DGC Tel:

If DIO wishes to use this data at any forum relating to the consultation after the initial assessment stage, DIO must seek authorisation from Copyright & Release, DGC on a case by case basis.

This data must only be used or stored on official UK MOD Government systems, or other systems approved by DGC, accessible by authorised personnel only. It MUST NOT be placed on or transmitted via the Internet. This data MUST NOT be used for commercial purposes, resale or public distribution. When no longer required by DIO, UK defence, UK Government and MOD contractors to support UK MOD Safeguarding requirements, all copies of this data must be destroyed in a manner that prevents its reconstruction."

Defence

Infrastructure

Organisation

OFFICIAL



Ministry
of Defence

AIR DEFENCE & AIR TRAFFIC SYSTEMS RADIO SITE PROTECTION

TECHNICAL REPORT

Issue: 1
Date: 08 Jan 2015

Title: WR80026/01
DIO 21766 – AIR TRAFFIC CONTROL (ATC), AIR
DEFENCE (AD), MAA RADARS AND RANGES –
ASSESSMENT OF THE DEVELOPERS
PROPOSAL TO ESTABLISH A WINDFARM AT
BANNAUDUON, NEAR LLANARTH

OFFICIAL

THIS DOCUMENT IS THE PROPERTY OF HER BRITANNIC MAJESTY'S GOVERNMENT and is issued for the information of such persons only as need to know its contents in the course of their official duties. Any person finding this document should hand it in to a British Forces Unit or to a police station for its safe return to the **MINISTRY OF DEFENCE, HQ SECURITY, LONDON SW1A 2HB**, with particulars of how and where found.

THE UNAUTHORISED RETENTION OR DESTRUCTION OF THE DOCUMENT IS AN OFFENCE UNDER THE OFFICIAL SECRETS ACT OF 1911 TO 1989.

(When released to persons outside Government Service, this document is issued on a personal basis and the recipient to whom it is entrusted in confidence, within the provisions of the Official Secrets Act 1911 to 1989, is personally responsible for its safe custody and for seeing that its contents are disclosed only to authorized persons.)

CONDITIONS OF RELEASE

1. The information given in this document is not to be communicated either directly or indirectly to the Press or any person not authorised to receive it.
(Applicable to copies supplied with Ministry of Defence approval to Commonwealth and Foreign Governments)

2. This information is released by the UK Government to the recipient Government for defence purposes only.

3. This information must be accorded the same degree of security protection as that accorded thereto by the UK Government.

4. This information may be disclosed only within the Defence Departments of the recipient Governments, except as otherwise authorised by the Ministry of Defence.

5. This information may be subject to privately owned rights.
(Applicable to Commercial-in-Confidence documents)

6. This document may contain proprietary information made available to the Ministry of Defence subject to the limitations of confidentiality and restricted rights of use. Its existence or contents must not be further disclosed without specific authority.

CROWN COPYRIGHT

This document is the property of Her Majesty's Government and therefore the information contained herein is subject to Crown Copyright © protection and may only be used for the purpose authorised.

Issue: 1 Dated: 08 Jan 15

OFFICIAL

OFFICIAL

DOCUMENT AUTHORISATION

	<u>Post:</u>	<u>Name:</u>	<u>Signature:</u>
Prepared by:			
Authorised by:			

This Technical Report is issued and maintained by:

Any unsatisfactory feature of this document or any change of address of holder should be reported to

FOI FORMAT AND SUMMARY

20150108-DIO21766 Concerns Bannauon-RSP1d-O

Radar Field Strength and/or Radar Line-of-Sight analysis indicates that the proposed windfarm at Bannauon shows a high degree of probability that it will be detected by one or more MoD radars to a degree that will affect their function.

Issue: 1 Dated: 08 Jan 15

OFFICIAL

DISTRIBUTION

External:

Internal:

CONTENTS

PRELIMINARY MATERIAL	Page
Title Page & Cover	
Copyright & Release Conditions.....	i
Document Authorisation.....	ii
FOI Format and Summary.....	ii
Distribution.....	iii
Contents.....	iii
References.....	iv
Standard Assumptions and Terms.....	v
Scope.....	1
Introduction.....	1
Effects of Wind Turbines on Radar Performance.....	1
Assessment of the Proposed Wind Farm.....	2
Conclusion and Recommendations.....	2

- Figure 1 – Local area map for Bannauduon windfarm
- Figure 2 – Coverage prediction plot for Aberporth Watchman Radar
- Figure 3 – Coverage prediction plot for Aberporth Watchman Radar

Issue: 1 Dated: 08 Jan 15

OFFICIAL

REFERENCES

- A. E-mail from Defence Infrastructure Organisation, DIO 21766 dated 07 Jan 15
- B. JSP846 – Issue 7 dated 01 Sep 14
- C. QINETIQ/D&TS/SEA/TA0705054/1.0 – Assessment of Wind Turbine Effects for DCSA
- D. AWC/WAD/72/655/TRIALS dated 10 May 05 – The effect of wind turbine farms on ATC radar (Qixotic Zephyr trial)
- E. AWC/WAD/72/655/TRIALS dated 06 Jan 05 – The effects of wind turbine farms on Air Defence radars (Swift Crofter trial)
- F. Further evidence of the effects of wind turbine farms on AD radar dated 12 Aug 05 (Mistral Crop trial)
- G. Trial report Weave Elbow (Stage 3) dated 21 May 2014 – Further testing of wind turbine effects on the TPS-77 radar.

Issue: 1 Dated: 08 Jan 2015

iv

OFFICIAL

OFFICIAL

Standard Assumptions and Terms

RLOS - Radio Line of Sight. This is a linear path estimation of line-of-sight at radar wavelengths that compensates for refractive effects by assuming a reduced earth curvature (4/3 earth radius).

Clutter is taken into consideration as part of the propagation model that generates coverage plots and can significantly reduce the probability of detection by the radar.

Stated accuracy for the Ordnance Survey ground height data is $\pm 3\text{m}$ to 1RMS. DES ADATS maintains mapping data at far greater accuracy for the radar positions. The radar aperture heights used in calculation reflect this increase in accuracy.

All heights AMSL are referenced to the National Grid geoid. All angles are referenced to Grid north unless specifically stated.

Areas of the coverage plots shaded in blue indicate where a turbine of the dimensions given is predicted to be detected by the radar.

Level 1 Assessment: Considers RLOS only and is used for radars where no parameters other than physical location are available. This method is not considered to be particularly accurate.

Level 2 Assessment: Calculated probability of detection from available radar parameters, turbine parameters and terrain data. The total RCS of the turbine is used in all instances. This report constitutes a Level 2 Assessment except for NATS Great Dun Fell and MAA Yeovil. Coverage plots are not relevant for Secondary Surveillance Radars which are more concerned with short-range reflections.

Level 3 Assessment: A more extensive Probability of Detection calculation, utilising sectioned RCS. This method is considered to give more accurate answers when RLOS is not present and diffraction is the sole method of detection.

Turbine RCS: A measure of the radar reflectivity of the complete turbine structure.

Turbine Visibility: The amount of the turbine visible over terrain, considering RLOS only. In general, a large positive value is a strong indicator that the turbine will be detected. A Level 3 assessment is generally requested in the report where this value is zero and detection is still indicated.

Max height for no visibility: A sample cut-off height below which all of the turbine would be obscured by terrain. Note that this figure will vary between turbines with different ground heights in the same proposal.

Visibility over clutter: The amount of the turbine which is un-obscured from the radar by building clutter and terrain (where this is the same as the Turbine Visibility, no clutter exists in the beam path). Where this value is zero or very small, the turbine is completely obscured by clutter and the detection probability will be greatly reduced. Note that clutter is represented by average values for a type in an area (forest, sub-urban, urban, etc) and not to the individual building level.

Issue: 1 Dated: 08 Jan 2015

v

OFFICIAL

1 Scope

1.1 The purpose of this report is to ascertain the likely effects of the proposed wind turbines at Bannauduon on the performance of Radar Systems at MoD-related sites.

2 Introduction

2.1 Reference A is a proposal to establish a wind farm of 1 turbine at Bannauduon, near Llanarth. National Grid References were provided for all positions (SN (2)42049 (2)53548). The highest point of the turbine blades will be 48 metres above ground level. A local map of the proposed area is shown at Figure 1.

2.2 Siting restrictions for radars are defined in Reference B. Reference C details methods of determining Radar Cross-Section (RCS) values from a generic turbine model. Reference D defines specific restrictions for siting wind turbines, which apply when there is Line of Sight (RLOS) between radar and turbine. References E, F and G define additional restrictions applicable only to Air Defence (AD) radars.

3 Effects of Wind Turbines on Radar Performance

3.1 It has been shown that where RLOS exists and/or Radar Field Strength detection occurs, the wind turbines will appear as genuine aircraft targets. This effect has been shown to mask aircraft responses, even when the aircraft is in a high elevation beam and the turbine is in a lower sidelobe. The radar may also be desensitised by its clutter processing within the sector containing wind turbines.

3.2 Additionally, shadowing of aircraft at similar radar to target elevation angles at the wind turbines may occur, degrading radar performance. However, this is only expected to occur over short distances from wind turbines.

3.3 In close proximity, turbines can cause spurious reflections of returns. This is particularly a problem for Secondary Surveillance Radars.

4 Assessment of the Proposed Wind Farm

4.1 Aberporth Watchman Radar Field Strength Coverage summary

4.1.1	Range to Windfarm:	18.162km
	Angle to Windfarm:	85.26°
	RLOS Visibility	20m
	Turbine RCS:	20.5m ²
	Aux Beam:	Inside

4.1.2 A Field Strength Coverage plot was generated for the radar using these parameters (Figure's 2 & 3), indicating that the turbine will be detected by the radar.

4.1.3 All other radars at this site have been checked.

4.2 There are no concerns regarding the following radars, which have been checked:

4.2.1 RAF Brizlee Wood, Portreath, Staxton Wold and Trimmingham

4.2.2 RNAS Hartland Point

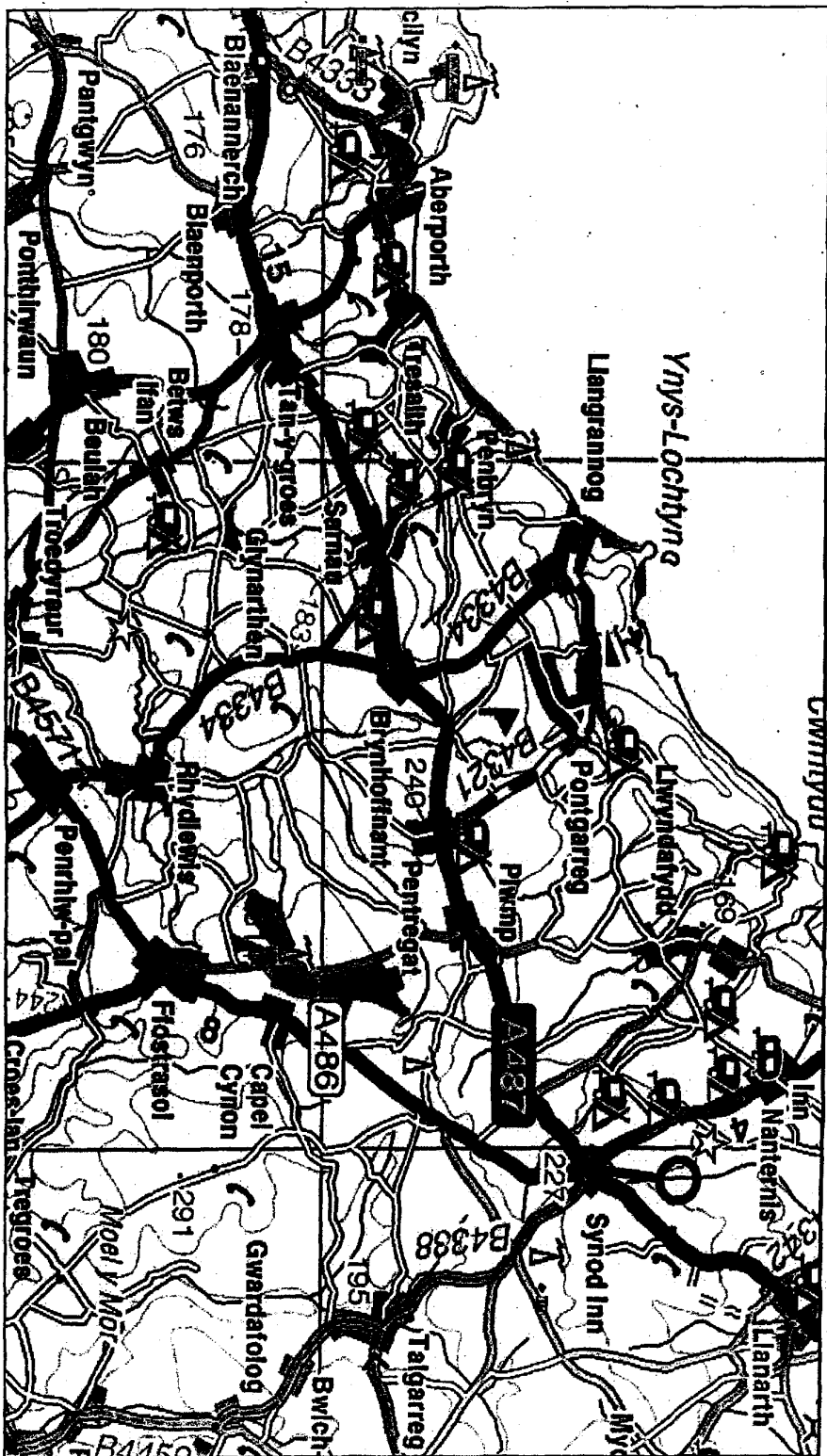
4.2.3 MAA Warton

4.3 The proposed wind farm is beyond the protected range and/or outside the protective arcs of all other radars.

5 Conclusion and Recommendations

It is recommended that the Operations Staff check whether the proposed wind farm at Bannauduon is in an area of vital air traffic operations controlled by the radar at Aberporth. If so a decision to object to the proposal should be considered on the grounds referred to in paragraph 3.1 and paragraph 3.2.

OFFICIAL

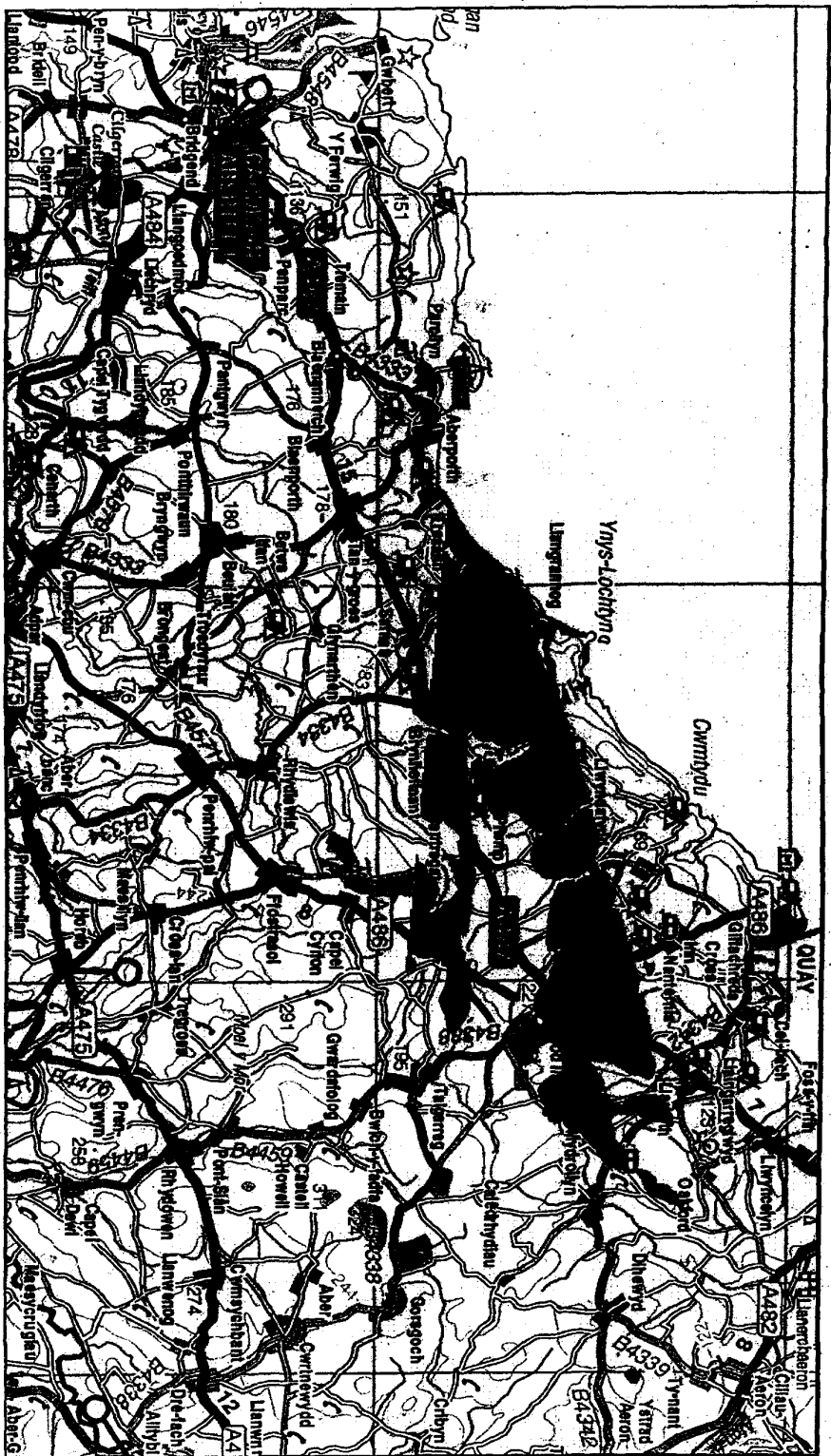


Local area map for DIO 21766 Bannaudun windfarm (SN (2)42049 (2)53548)

Figure 1
OFFICIAL

Issue: 1 Dated: 08 Jan 2015

OFFICIAL



DIO 21766 coverage estimate plot for Aberporth Watchman Radar (48m, 20.5m² RCS, Aux Beam)

Figure 2
OFFICIAL

Issue: 1 Dated: 08 Jan 2015

OFFICIAL



DIO 21766 coverage estimate plot for Aberporth Watchman Radar (48m, 20.5m² RCS, Aux Beam)

Figure 3

OFFICIAL

Issue: 1 Dated: 08 Jan 2015

From:
Sent: 08 January 2015 13:58
To:

Subject: 20150108-DIO 21766 Bannauduon - no concerns
Navy Command has no concerns regarding DIO WIND consultation No DIO 21766.

From:
Sent: 08 January 2015 10:41
To:

Subject: 20150108-DIO 21766 Bannauduon URG Wind farm
Importance: High

sent by
e-mail:
Tel.

From: i
Sent: 08 January 2015 10:07
To:
Subject: FW: 20150107-DIO21766-Bannauduon-Urg
Importance: High

Concerns.

From:
Sent: 07 January 2015 15:22
To:
Subject: 20150107-DIO21766-Bannauduon-Urg
Importance: High

Please see attached details for the above planning consultation. Please respond by 25/01/2015

Kind Regards

"Produced by Defence Geographic Centre and No. 1 AIDU, JFIG, Ministry of Defence, United Kingdom 2014.

© UK MOD Crown Copyright 2014.

12/06/2015

DGC furnished Data is supplied in the format and condition provided and is licensed for the purposes specified in the release conditions. DGC accepts no liability for any error or omission in the Data, or for any loss, damage, claims, proceedings or costs arising from the recipient's use of or reliance on the Data or from any modifications or alteration to the data or its format, to the full extent permitted by law. DGC accepts no liability for or arising from any elements of the DGC furnished Data provided by third parties.

Release Conditions

Authorisation has been granted for use of the Low Flying Charts by DIO, UK Defence, UK Government and UK MOD contractors to support UK MOD Safeguarding requirements ONLY. Each time data is supplied to a MOD contractor, it may only be used for the consultation the contractor is advising on. Disclosure or release to unauthorised individuals or organisations, or use for any purpose outside of UK MOD Safeguarding requirements, is NOT permitted without prior authorization from Copyright & Release, DGC Tel:

If DIO wishes to use this data at any forum relating to the consultation after the initial assessment stage, DIO must seek authorisation from Copyright & Release, DGC on a case by case basis.

This data must only be used or stored on official UK MOD Government systems, or other systems approved by DGC, accessible by authorised personnel only. It MUST NOT be placed on or transmitted via the Internet. This data MUST NOT be used for commercial purposes, resale of public distribution. When no longer required by DIO, UK defence, UK Government and MOD contractors to support UK MOD Safeguarding requirements, all copies of this data must be destroyed in a manner that prevents its reconstruction."

BT 17 2 01

Defence

Infrastructure

Organisation



See Distribution

Reference: 20150109 Windfarm-Planning
Applications-DIO21766 no_objections-O

Date: 09 Jan 2015

BANNUADUON (DIO21766) WIND FARM DEVELOPMENT PROPOSAL - NO OBJECTIONS

1. DIO requested that HQ 1 GP BM Safeguarding review the proposal to erect 1 x 48m turbine wind farm at Bannuaduon. Following a detailed examination of the proposal, the impact of the proposed development on ATC radars and the ATC usage of Airspace in the region it was found that there was no radar Line-of-Sight and no impact on RAF ATC operations.

2. HQ 1 GP BM Safeguarding do not have objections with the Bannuaduon proposal (DIO21766) as it is assessed that there will be no effect on ATC operations or radar performance. This level of concern is held on the basis that there will be no additional turbines or a change in turbine height without a separate planning request, any change to this proposal could result in objections being raised.

Distribution:

DIO Sec-Parli5

From:
Sent: 30 January 2015 10:48
To:
Cc:
Subject: FW: DIO21766-Bannauduon - OBJECTION
Attachments: ABERPORTH Planning Application Responses 21766???Bannauduon.doc

Dear

On behalf of the Qinetiq Aberporth site which is run on behalf of MOD, the MOD Site Representative, West Wales UAVC and [redacted], Aviation Manager (Weapons, I am writing to raise an objection to the above application for a single turbine located just under 11 miles north-east of Aberporth. A Google Earth image is attached for ease of reference.

The salient points from the ADATS Report (attached with DIO application) are as follows: -

Aberporth Watchman Radar Field Strength Coverage summary

		Range
to Windfarm:	18.162km	
Angle to Windfarm:		5.26°
RLOS Visibility		20m
Turbine RCS:		20.5m²
Aux Beam:		Inside

A Field Strength Coverage plot was generated for the radar using these parameters (Figure's 2 & 3), indicating that the turbine will be detected by the radar. All other radars at this site have been checked.

The following additional information from [redacted] has been supplied. Please ensure this feedback is given to the relevant parties. [redacted] has articulated her concerns, and [redacted] has suggested a possible solution can be achieved by moving the turbine a short distance out of radar LOS. I have attached the pro-forma giving the responses to support an objection and suggesting a possible solution.

		Objection, on the basis of LOS, ADATS concern and the position being within the D202 Complex.
		In line with the other comments this is RLOS and has the potential to affect air surveillance detection therefore Objection
		Objection on the basis of possible impact to air surveillance and detection due to the radar LOS within a recognised Danger Area.
		ADATS LoS concern, detrimental to intruder detection impacting ATC & Range Safety.

12/06/2015

Air Traffic Response		
Weapons Division		<p>Given that the proposed site is just on the edge of an area of no radar coverage (see ADATS report) the radar could be resolved if the site was moved approximately 1/2 East so that it should not be seen on radar at all.</p>
1	Departure routes including Standard Instrument Departures (SIDS)	Nil
2	Standard Approach and Arrival procedures	Nil
3	Traffic Patterns	Nil
4	Special tasks conducted by Unit	Potentially. Proposed site is beneath Danger Area EGD202A which is used by UAVs. Given that the radar return would have to be avoided under a Deconfliction service it would reduce the airspace available in which to safely fly the aircraft whilst maintain required separation standards.
5	Manoeuvring Areas	N/A
6	Holding areas	N/A
7	Instrument Flight Paths	The EGD202 complex is used as a UAV corridor within which the aircraft are separated from other aircraft under a Deconfliction service. The presence of a radar return from the wind turbine, in addition to others already present, could impact the ability to safely fly a UAV whilst maintaining required separation standards. This could potentially curtail the use of the whole D202 complex if the required separation standards criteria could not be met.
8	Airways/Airspace Classification	No
9	Airfield entry/exit flow points	No
10	Visual reporting points	No
11	Future Airspace and operational requirements	Yes – see response to question 7
12	Types of service	Yes – see response to question 7
13	Traffic Density	No
14	Existing clutter/Permanent Echoes	Yes – see response to question 7
15	Types of aircraft/Aircraft characteristics	Yes – Area used by UAVs which require a higher level of air traffic service and consequently a more stringent separation standard from other airspace users.
16	Radar performance	Yes – turbine will be visible on radar (ADATS report)
17	ATC complexity	Potentially – addition of radar return will reduce the available airspace in which to fly the UAV.
18	ATC workload	Potentially – see response to question 7 and 17.
19	Restricted/danger areas	Yes – see response to question 7
20	High ground/sensitive areas	No
21	Proximity of other traffic patterns and how they might be affected with any potential flow changes/choke points.	No
22	Distress and Diversion operations	No

Wind Farm Application Request for Responses

ABERPORTH

DIO Reference No. and Location: DIO 21766 Bannaudun

Date Sent for Comments: 08/01/2015 DEADLINE FOR RESPONSES: 16/01/2015

Number of Turbines: 1 Rotor Diameter: 34.97 Wind Turbine Hub Height (M): 30.52

Grid Reference: (1st Turbine) SN 42049 53548

ADATS Report Attached? Yes

File	Name	Comments (State all concerns, if appropriate)
		Objection , on the basis of LOS, ADATS concern and the position being within the D202 Complex.
		In line with the other comments this is RLOS and has the potential to affect air surveillance detection therefore Objection
		Objection on the basis of possible impact to air surveillance and detection due to the radar LOS within a recognised Danger Area.
		ADATS LoS concern, detrimental to intruder detection impacting ATC & Range Safety.

Air Traffic Response

1	Departure routes including Standard Instrument Departures (SIDS)	Nil
2	Standard Approach and Arrival procedures	Nil
3	Traffic Patterns	Nil
4	Special tasks conducted by Unit	Potentially. Proposed site is beneath Danger Area EGD202A which is used by UAVs. Given that the radar return would have to be avoided under a Deconfliction service it would reduce the airspace available in which to safely fly the aircraft whilst maintain required separation standards.
5	Manoeuvring Areas	N/A

6	Holding areas	N/A
7	Instrument Flight Paths	The EGD202 complex is used as a UAV corridor within which the aircraft are separated from other aircraft under a Deconfliction service. The presence of a radar return from the wind turbine, in addition to others already present, could impact the ability to safely fly a UAV whilst maintaining required separation standards. This could potentially curtail the use of the whole D202 complex if the required separation standards criteria could not be met.
8	Airways/Airspace Classification	No
9	Airfield entry/exit flow points	No
10	Visual reporting points	No
11	Future Airspace and operational requirements	Yes – see response to question 7
12	Types of service	Yes – see response to question 7
13	Traffic Density	No
14	Existing clutter/Permanent Echoes	Yes – see response to question 7
15	Types of aircraft/Aircraft characteristics	Yes – Area used by UAVs which require a higher level of air traffic service and consequently a more stringent separation standard from other airspace users.
16	Radar performance	Yes – turbine will be visible on radar (ADATS report)
17	ATC complexity	Potentially – addition of radar return will reduce the available airspace in which to fly the UAV.
18	ATC workload	Potentially – see response to question 7 and 17.
19	Restricted/danger areas	Yes – see response to question 7
20	High ground/sensitive areas	No
21	Proximity of other traffic patterns and how they might be affected with any potential flow changes/choke points.	No
22	Distress and Diversion operations	No

From:

Sent: 20 January 2015 17:08
To:

Subject: 20150108-DIO 21766 Bannauduon URG Wind Farm

Importance: High

Attachments: WFS_ProForma_21766.xls



WFS_ProForma_21766.xls (21 KB)...

Sent: 08 January 2015 10:07
Subject: FW: 20150107-DIO21766-Bannauduon-Urg
Importance: High

Concerns.

Fr:
Sent: 07 January 2015 15:22
To:
Subject: 20150107-DIO21766-Bannauduon-Urg
Importance: High

Please see attached details for the above planning consultation. Please respond by 25/01/2015

Kind Regards

"Produced by Defence Geographic Centre and No. 1 AIDU, JFIG, Ministry of Defence, United Kingdom 2014.

© UK MOD Crown Copyright 2014.

DGC furnished Data is supplied in the format and condition provided and is licensed for the purposes specified in the Release conditions. DGC accepts no liability for any error or omission in the Data, or for any loss, damage, claims, proceedings or costs arising from the recipient's use of or reliance on the Data or from any modifications or alteration to the data or its format, to the full extent permitted by law. DGC accepts no liability for or arising from any elements of the DGC furnished Data provided by third parties.

Release Conditions

Authorisation has been granted for use of the Low Flying Charts by DIO, UK Defence, UK Government and UK MOD contractors to support UK MOD Safeguarding requirements ONLY. Each time data is supplied to a MOD contractor, it may only be used for the consultation the contractor is advising on. Disclosure or release to unauthorised individuals or organisations, or use for any purpose outside of UK MOD Safeguarding requirements, is NOT permitted without prior authorization from Copyright & Release, DGC Tel:

If DIO wishes to use this data at any forum relating to the consultation after the initial assessment stage, DIO must seek authorisation from Copyright & Release, DGC on a case by case basis.

This data must only be used or stored on official UK MOD Government systems, or other systems approved by DGC, accessible by authorised personnel only. It MUST NOT be placed on or transmitted via the Internet. This data MUST NOT be used for commercial purposes, resale of public distribution. When no longer required by DIO, UK defence, UK Government and MOD contractors to support UK MOD Safeguarding requirements, all copies of this data must be destroyed in a manner that prevents its reconstruction."

Defence

Infrastructure

Organisation

IDE REF

[WINDFARM NAME] HEADER INFORMATION

GENERAL INFORMATION	
Company Name	Cerrefigon County Council
Addr1	
Addr2	
Addr3	
County	
Postcode	
Country	
Contact	
Telephone	
Facsimile	
e-mail	
Wind Turbine Manufacturer	
Wind Turbine Model	
Wind Farm Generation capacity (MW)	0.25
No. Turbines	1
Blade Manufacturer	
No. of Blades	
Rotor Diameter (M)	94.87000122
Rotation Speed 1 (RPM)	
Rotation Speed 2 (RPM)	
Blade material	
Lightning Conductors	
Wind Turbine/Hub Height (M)	30.52000046
Tower Design	
Tower base diameter 1 / dimensions (M)	
Tower base diameter 2 / dimensions (M) (if not round)	
Tower top diameter 1 / dimensions (M)	
Tower top diameter 2 / dimensions (M) (if not round)	
Comments	

[DE REF]

[WINDFARM NAME] TURBINE LOCATIONS

Wind Farm Name	Barnauduon	
Developers Ref	A140863	
DE Reference	21766	
Addr1	Llanarth	
Addr2		
Addr3		
County		
Postcode		
Country	Wales	
Offshore?	FALSE	
Related Apps		

Turbine No.	Field	0 SN	42049	53548	N	52	9	25.82	W	4	18	33.37
1												

From: [Redacted]
Sent: 30 January 2015 10:48
To: [Redacted]
Cc: [Redacted]
Subject: FW: DIO21766-Bannauduon - OBJECTION
Attachments: 20150108-DIO 21766 Bannauduon URG Wind Farm
 Dear

On behalf of the Aberporth site which is run on behalf of MOD, the MOD Site Representative, West Wales UAVC and [Redacted] (Weapons, I am writing to raise an objection to the above application for a single turbine located just under 11 miles north-east of Aberporth. A Google Earth image is attached for ease of reference.

The salient points from the ADATS Report (attached with DIO application) are as follows: -

Aberporth Watchman Radar Field Strength Coverage summary

		Range
to Windfarm:	18.162km	
Angle to Windfarm:		5.26°
RLOS Visibility		20m
Turbine RCS:		20.5m ²
Aux Beam:		Inside

A Field Strength Coverage plot was generated for the radar using these parameters (Figure's 2 & 3), indicating that the turbine will be detected by the radar. All other radars at this site have been checked.

The following additional information from [Redacted] has been supplied. Please ensure this feedback is given to the relevant parties. [Redacted] has articulated her concerns, and has suggested a possible solution can be achieved by moving the turbine a short distance out of radar LOS. I have attached the pro-forma giving the responses to support an objection and suggesting a possible solution.

[Redacted]	[Redacted]	Objection, on the basis of LOS, ADATS concern and the position being within the D202 Complex.
[Redacted]	[Redacted]	In line with the other comments this is RLOS and has the potential to affect air surveillance detection therefore Objection
[Redacted]	[Redacted]	Objection on the basis of possible impact to air surveillance and detection due to the radar LOS within a recognised Danger Area.
[Redacted]	[Redacted]	ADATS LoS concern, detrimental to intruder detection impacting ATC & Range Safety.

12/06/2015

Air Traffic Response		
		<p>...that the proposed site is on the edge of an area of no radar coverage (see ADATS report) ... radar could be resolved if the site was moved approximately 1/4 East so that it should not be seen on radar at</p>
1	Departure routes including Standard Instrument Departures (SIDs)	Nil
2	Standard Approach and Arrival procedures	Nil
3	Traffic Patterns	Nil
4	Special tasks conducted by Unit	Potentially. Proposed site is beneath Danger Area EGD202A which is used by UAVs. Given that the radar return would have to be avoided under a Deconfliction service it would reduce the airspace available in which to safely fly the aircraft whilst maintain required separation standards.
5	Manoeuvring Areas	N/A
6	Holding areas	N/A
7	Instrument Flight Paths	The EGD202 complex is used as a UAV corridor within which the aircraft are separated from other aircraft under a Deconfliction service. The presence of a radar return from the wind turbine, in addition to others already present, could impact the ability to safely fly a UAV whilst maintaining required separation standards. This could potentially curtail the use of the whole D202 complex if the required separation standards criteria could not be met.
8	Airways/Airspace Classification	No
9	Airfield entry/exit flow points	No
10	Visual reporting points	No
11	Future Airspace and operational requirements	Yes – see response to question 7
12	Types of service	Yes – see response to question 7
13	Traffic Density	No
14	Existing clutter/Permanent Echoes	Yes – see response to question 7
15	Types of aircraft/Aircraft characteristics	Yes – Area used by UAVs which require a higher level of air traffic service and consequently a more stringent separation standard from other airspace users.
16	Radar performance	Yes – turbine will be visible on radar (ADATS report)
17	ATC complexity	Potentially – addition of radar return will reduce the available airspace in which to fly the UAV.
18	ATC workload	Potentially – see response to question 7 and 17.
19	Restricted/danger areas	Yes – see response to question 7
20	High ground/sensitive areas	No
21	Proximity of other traffic patterns and how they might be affected with any potential flow changes/choke points.	No
22	Distress and Diversion operations	No

From:

Sent: 09 February 2015 12:18

To:

Subject: Ref-A140863 Turbine at Land at Bannauduon

Attachments: Bannauduon.pdf

For the attention of Please find MOD's response to the above planning consultation.

I have spoken to the applicant with a possible mitigation solution, relocating the turbine slightly to the east may take it out of radar detectability.

Kind Regards

Defence

Infrastructure

Organisation

12/06/2015



**Defence
Infrastructure
Organisation**

Your Reference: A140863

Our Reference: DIO 21766

Ministry of Defence

Telephone [MOD]:

Facsimile [MOD]: +

E-mail:

Sir Ceredigion County Council

09/02/2015

Dear I

Please quote in any correspondence: DIO 21766

Site Name: Land at Bannauduon

Planning Application Number: A140863

Site Address: Llanarth

Thank you for consulting the Ministry of Defence (MOD) about the above planning application in your communication dated 06/01/2015.

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 1 turbine, 48.01 metres in height from ground level to blade tip and located at the grid reference below as stated in the planning application or provided by the developer:

Turbine	100km Square letter	Easting	Northing
1	SN	42049	53548

Air Traffic Control (ATC) Radar

The turbine will be 18.162 km from, detectable by, and will cause unacceptable interference to the Range Control radar at Aberporth.

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 controllers. The creation of "false" aircraft displayed on the radar could result in testing operations being suspended unnecessarily. Furthermore, real aircraft returns can be obscured by the turbine's radar returns, making the detection of unauthorised traffic much more difficult.

The turbine will be close to the training area / range at Aberporth and will unacceptably affect military activities because of its implications on flight and range safety due to proximity to D201 Danger Area

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: <https://www.gov.uk/government/publications/wind-farms-ministry-of-defence-safeguarding>

Yours sincerely

Defence Infrastructure Organisation

From:
Sent: 09 February 2015 12:38
To:
Subject: Ref- A140863- Turbine at Land at Bannauduon
Attachments: Land at Bannauduon.doc
Mr.

Further to our conversation earlier this morning, with regards to an objection that the MOD will be lodging with Ceredigion Council in relation to the above planning consultation. The technical advisor has stated there may be a possible mitigation solution. I have attached a coverage map showing that the turbine will be detectable by the Range Control radar at Aberporth. If the turbine was moved slightly to east out of the blue shaded area this would take it out of radar line of sight.

I hope this is of some help.

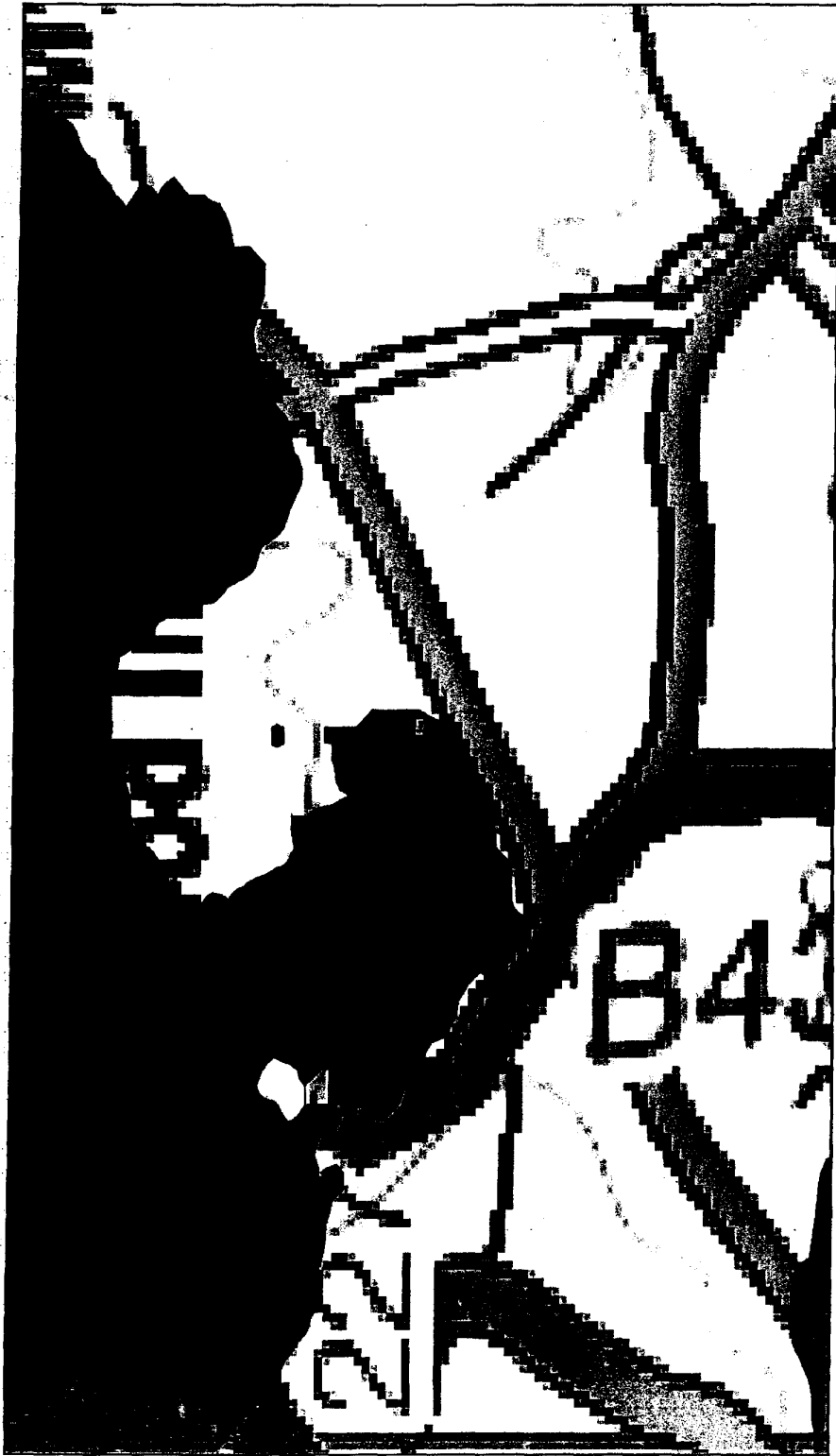
Kind Regards

Defence

Infrastructure

Organisation

12/06/2015

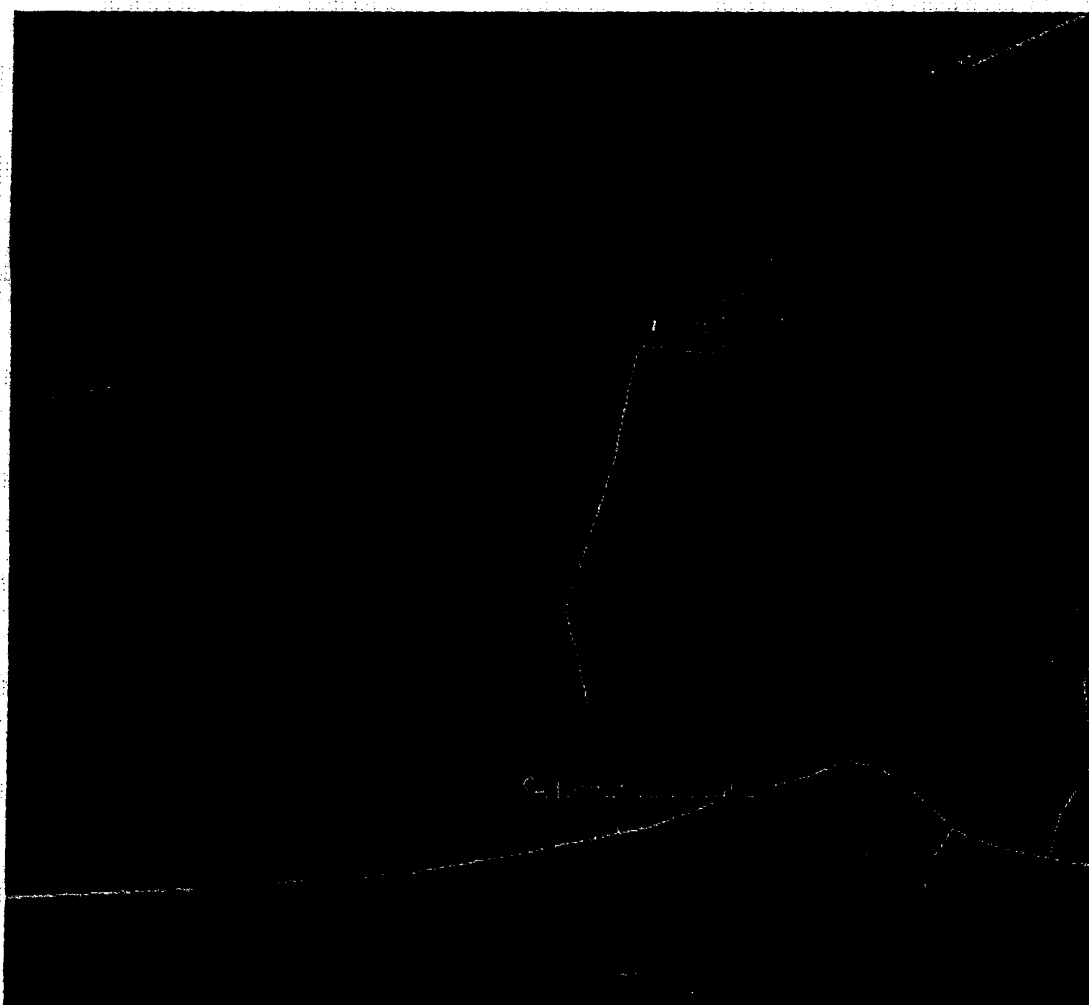


From:
Sent: 18 February 2015 10:23
To:
Subject: RE: Ref- A140863- Turbine at Land at Bannauduon
Follow Up Flag: Follow up
Flag Status: Red

Hi

It is very difficult for us to the site the turbine with the scale of map you have provided.

I have attached an image below which highlights an alternative location for the turbine, the co-ordinates are as follows: 242183,253643.



Would reducing the size of the turbine in the current location resolve the issue?

Please could you advise.

12/06/2015

Many thanks
Best regards,
Charles Ashton
Project Manager



Website: www.dc21group.com

Email disclaimer

This email and any attachments are to be treated as confidential and may be legally privileged. The information may not be used or disclosed except for the purpose for which it has been sent. If you are not the intended recipient of this email please contact the sender immediately and destroy this email. Email is susceptible to data corruption, unauthorised amendment, viruses and unforeseen delays. The company does not accept liability for the consequences of any of these actions. Any views or opinions presented in this email are solely those of the author and do not necessarily represent those of the company. The company will not accept any liability in respect of any statements made in this email. No employee or agent is authorised to conclude any binding agreement on behalf of the company.

Registered Address: DC21 Ltd, Dene House, North Road, Kirkburton, W. Yorks, HD8 0RW
Registered Number: 6855349

From:
Sent: 10 February 2015 12:18
To:
Subject: RE: Ref- A140863- Turbine at Land at Bannaudon

With regards to the above planning consultation, the map that was sent to you is the only map that is provided.

Kind Regards

Defence

Infrastructure

Organisation

12/06/2015

From:
Sent: 09 February 2015 16:10
To:
Subject: RE: Ref- A140863- Turbine at Land at Bannaúduon

Hi

Thank for your email.

Would it be possible for you to send me a more detailed map so we can assess moving the site in more accurately.

Many thanks

Best regards,
Charles Ashton
Project Manager



DC21 Limited
Dene House, North Road,
Kirkburton, Huddersfield,
HD8 0RW.
Tel: +44 (0)1484 600099 (NEW)
Mob: +44 (0)75900 11599

Website: www.dc21group.com

Email disclaimer

This email and any attachments are to be treated as confidential and may be legally privileged. The information may not be used or disclosed except for the purpose for which it has been sent. If you are not the intended recipient of this email please contact the sender immediately and destroy this email. Email is susceptible to data corruption, unauthorised amendment, viruses and unforeseen delays. The company does not accept liability for the consequences of any of these actions. Any views or opinions presented in this email are solely those of the author and do not necessarily represent those of the company. The company will not accept any liability in respect of any statements made in this email. No employee or agent is authorised to conclude any binding agreement on behalf of the company.

Registered Address: DC21 Ltd, Dene House, North Road, Kirkburton, W. Yorks, HD8 0RW
Registered Number: 6855349

From:

12/06/2015

Sent: 00:54:00 12/06/2015
To: [c](#)
Subject: Ref- A140863- Turbine at Land at Bannaudun

Further to our conversation earlier this morning, with regards to an objection that the MOD will be lodging with Ceredigion Council in relation to the above planning consultation. The technical advisor has stated there may be a possible mitigation solution. I have attached a coverage map showing that the turbine will be detectable by the Range Control radar at Aberporth. If the turbine was moved slightly to east out of the blue shaded area this would take it out of radar line of sight.

I hope this is of some help.

Kind Regards

Defence

Infrastructure

Organisation

12/06/2015

From:
Sent: 03 March 2015 12:36
To:
Subject: 20150303-DIO 21766 Bannaduon VURG Wind Farm
Importance: High
Attachments: WFS_ProForma_21766.xls

From:
Sent: 03 March 2015 12:32
To:
Subject: FW: 20150303-DIO21766-Bannaduon-Vurg
Importance: High

No concerns at BTH 48m
Stations Checked Brizlee Wood, Staxton Wold Trimmingham, Warton, Aberporth, Hartland Point and Portreath

From:
Sent: 03 March 2015 10:58
To:
Subject: 20150303-DIO21766-Bannaduon-Vurg
Importance: High

Re-assessment requested by the developer. New grid references provided. Please see attached details for the above planning consultation. Please respond by 06/03/2015.

Kind Regards

“Produced by Defence Geographic Centre and No. 1 AIDU, JFIG, Ministry of Defence, United Kingdom 2015.

© UK MOD Crown Copyright 2015.

DGC furnished Data is supplied in the format and condition provided and is licensed for the purposes specified in the release conditions. DGC accepts no liability for any error or omission in the Data, or for any loss, damage, claims, proceedings or costs arising from the

12/06/2015

recipient's use of or reliance on the Data or from any modifications or alteration to the data or its format, to the full extent permitted by law. DGC accepts no liability for or arising from any elements of the DGC furnished Data provided by third parties.

Release Conditions

Authorisation has been granted for use of the Low Flying Charts by DIO, UK Defence, UK Government and UK MOD contractors to support UK MOD Safeguarding requirements ONLY. Each time data is supplied to a MOD contractor, it may only be used for the consultation the contractor is advising on. Disclosure or release to unauthorised individuals or organisations, or use for any purpose outside of UK MOD Safeguarding requirements, is NOT permitted without prior authorization from Copyright & Release, DGC Tel.

If DIO wishes to use this data at any forum relating to the consultation after the initial assessment stage, DIO must seek authorisation from Copyright & Release, DGC on a case by case basis.

This data must only be used or stored on official UK MOD Government systems, or other systems approved by DGC, accessible by authorised personnel only. It MUST NOT be placed on or transmitted via the Internet. This data MUST NOT be used for commercial purposes, resale or public distribution. When no longer required by DIO, UK defence, UK Government and MOD contractors to support UK MOD Safeguarding requirements, all copies of this data must be destroyed in a manner that prevents its reconstruction."

Defence

Infrastructure

Organisation

From: [REDACTED]
Sent: 03 March 2015 10:58
To: [REDACTED]
Subject: 20150303-DIO21766-Bannaduon-Vurg
Importance: High
Attachments: WFS_ProForma_21766.xls

Re-assessment requested by the developer. New grid references provided. Please see attached details for the above planning consultation. Please respond by 06/03/2015.

Kind Regards

"Produced by Defence Geographic Centre and No. 1 AIDU, JFIG, Ministry of Defence, United Kingdom 2015.

© UK MOD Crown Copyright 2015.

DGC furnished Data is supplied in the format and condition provided and is licensed for the purposes specified in the release conditions. DGC accepts no liability for any error or omission in the Data, or for any loss, damage, claims, proceedings or costs arising from the recipient's use of or reliance on the Data or from any modifications or alteration to the data or its format, to the full extent permitted by law. DGC accepts no liability for or arising from any elements of the DGC furnished Data provided by third parties.

Release Conditions

Authorisation has been granted for use of the Low Flying Charts by DIO, UK Defence, UK Government and UK MOD contractors to support UK MOD Safeguarding requirements ONLY. Each time data is supplied to a MOD contractor, it may only be used for the consultation the contractor is advising on. Disclosure or release to unauthorised individuals or organisations, or use for any purpose outside of UK MOD Safeguarding requirements, is NOT permitted without prior authorization from Copyright & Release, DGC Te

If DIO wishes to use this data at any forum relating to the consultation after the initial assessment stage, DIO must seek authorisation from Copyright & Release, DGC on a case by case basis.

This data must only be used or stored on official UK MOD Government systems, or other systems approved by DGC, accessible by authorised personnel only. It MUST NOT be placed on or transmitted via the Internet. This data MUST NOT be used for commercial purposes, resale or public distribution. When no longer required by DIO, UK defence, UK Government and MOD contractors to support UK MOD Safeguarding requirements, all copies of this data must be destroyed in a manner that prevents its reconstruction."

Defence

Infrastructure

12/06/2015

Organisation

[DEVELOPER NAME]	
Company Name	Ceredigion County Council
Addr1	
Addr2	
Addr3	
County	
Postcode	
Country	
Contact	
Telephone	
Facsimile	
e-mail	
Wind Turbine Manufacturer	
Wind Turbine Model	
Wind Farm Generation capacity (MW)	0.225
No. Turbines	1
Blade Manufacturer	
No. of Blades	
Rotor Diameter (M)	34.97000122
Rotation Speed 1 (RPM)	
Rotation Speed 2(RPM)	
Blade material	
Lightning Conductors	
Wind Turbine Hub Height (M)	30.52000046
Tower Design	
Tower base diameter 1 / dimensions (M)	
Tower base diameter 2 / dimensions (M) (if not round)	
Tower top diameter 1 / dimensions (M)	
Tower top diameter 2 / dimensions (M) (if not round)	
Comments	



See Distribution

Reference: 20150303Windfarm-Planning
Applications-DIO21766 no_objections-O

Date: 03 Mar 2015

BANNAUDUON (DIO21766) WIND FARM DEVELOPMENT PROPOSAL - NO OBJECTIONS

1. DIO requested that HQ 1 GP BM Safeguarding review the proposal to erect 1 x 48m turbine wind farm at Bannauduon. Following a detailed examination of the proposal, the impact of the proposed development on ATC radars and the ATC usage of Airspace in the region it was found that there was no radar Line-of-Sight and no impact on RAF ATC operations.
2. HQ 1 GP BM Safeguarding do not have objections with the Bannauduon proposal (DIO21766) as it is assessed that there will be no effect on ATC operations or radar performance. This level of concern is held on the basis that there will be no additional turbines or a change in turbine height without a separate planning request, any change to this proposal could result in objections being raised.

Distribution:

From:
Sent: 04 March 2015 11:41
To:
Subject: 20150303-DIO 21766 Bannaduon - no concerns
Navy Command has no concerns regarding DIO WIND consultation No DIO 21766.

From:
Sent: 03 March 2015 12:36
To:
Subject: 20150303-DIO 21766 Bannaduon VURG Wind Farm
Importance: High

From:
Sent: 03 March 2015 12:32
To:
Subject: FW: 20150303-DIO21766-Bannaduon-Vurg
Importance: High

No concerns at BTH 48m
Stations Checked Brizlee Wood, Staxton Wold Trimmingham, Warton, Aberporth, Hartland Point and Portreath

From:
Sent: 03 March 2015 10:58
To:
Subject: 20150303-DIO21766-Bannaduon-Vurg
Importance: High

Re-assessment requested by the developer. New grid references provided. Please see attached details for the above planning consultation. Please respond by 06/03/2015.

Kind Regards

12/06/2015

"Produced by Defence Geographical Centre and No. 1 AIDU, JFIG, Ministry of Defence, United Kingdom 2015.

© UK MOD Crown Copyright 2015.

DGC furnished Data is supplied in the format and condition provided and is licensed for the purposes specified in the release conditions. DGC accepts no liability for any error or omission in the Data, or for any loss, damage, claims, proceedings or costs arising from the recipient's use of or reliance on the Data or from any modifications or alteration to the data or its format, to the full extent permitted by law. DGC accepts no liability for or arising from any elements of the DGC furnished Data provided by third parties.

Release Conditions

Authorisation has been granted for use of the Low Flying Charts by DIO, UK Defence, UK Government and UK MOD contractors to support UK MOD Safeguarding requirements ONLY. Each time data is supplied to a MOD contractor, it may only be used for the consultation the contractor is advising on. Disclosure or release to unauthorised individuals or organisations, or use for any purpose outside of UK MOD Safeguarding requirements, is NOT permitted without prior authorization from Copyright & Release, DGC

If DIO wishes to use this data at any forum relating to the consultation after the initial assessment stage, DIO must seek authorisation from Copyright & Release, DGC on a case by case basis.

This data must only be used or stored on official UK MOD Government systems, or other systems approved by DGC, accessible by authorised personnel only. It MUST NOT be placed on or transmitted via the Internet. This data MUST NOT be used for commercial purposes, resale or public distribution. When no longer required by DIO, UK defence, UK Government and MOD contractors to support UK MOD Safeguarding requirements, all copies of this data must be destroyed in a manner that prevents its reconstruction."

Defence

Infrastructure

Organisation

12/06/2015

From:
Sent: 06 March 2015 12:05
To:
Subject: RE: UC 20150303-DIO21766-Bannaduon-Vurg
Attachments: 20150303-DIO 21766 Bannaduon VURG Wind Farm

Please see attached email from ADATS there is no LOS.

Kind Regards

Defence

Infrastructure

Organisation

From:
Sent: 05 March 2015 17:07
To:
Subject:

Hi

Can you please confirm there is no line of sight to Aberporth radar for this application or send the ADATS report as appropriate?

Many thanks,

12/06/2015

F

People Who Know How

Connect with us: [Read our blog](#) | [Follow us on LinkedIn](#) | [Like us on FaceBook](#) | [Follow us on Twitter](#)

From:
Sent: 03 March 2015 10:58
To:
Subject: 20150303-DIO21766-Bannaduon-Vurg
Importance: High

Re-assessment requested by the developer. New grid references provided. Please see attached details for the above planning consultation. Please respond by 06/03/2015.

Kind Regards

"Produced by Defence Geographic Centre and No. 1 AIDU, JFIG, Ministry of Defence, United Kingdom 2015.

© UK MOD Crown Copyright 2015.

DGC furnished Data is supplied in the format and condition provided and is licensed for the purposes specified in the release conditions. DGC accepts no liability for any error or omission in the Data, or for any loss, damage, claims, proceedings or costs arising from the recipient's use of or reliance on the Data or from any modifications or alteration to the data or its format, to the full extent permitted by law. DGC accepts no liability for or arising from any elements of the DGC furnished Data provided by third parties.

Release Conditions

Authorisation has been granted for use of the Low Flying Charts by DIO, UK Defence, UK Government and UK MOD contractors to support UK MOD Safeguarding requirements ONLY. Each time data is supplied to a MOD contractor, it may only be used for the consultation the contractor is advising on. Disclosure or release to unauthorised individuals or organisations, or use for any purpose outside of UK MOD Safeguarding requirements, is NOT permitted without prior authorization from Copyright & Release, DGC Tel:

If DIO wishes to use this data at any forum relating to the consultation after the initial assessment stage, DIO must seek authorisation from Copyright & Release, DGC on a case by case basis.

This data must only be used or stored on official UK MOD Government systems, or other systems approved by DGC, accessible by authorised personnel only. It MUST NOT be placed on or transmitted via the Internet. This data MUST NOT be used for commercial purposes, resale or public distribution. When no longer required by DIO, UK defence, UK Government and MOD contractors to support UK MOD Safeguarding requirements, all copies of this data must be destroyed in a manner that prevents its reconstruction."

12/06/2015

9

Defence

Infrastructure

Organisation

From:
Sent: 18 March 2015 14:16
To:
Cc:
Subject: FW: DIO 21766-Bannauduon
Importance: High
Attachments: FW: DIO21766-Bannauduon - OBJECTION

Please can we discuss this when we meet on Monday.
Kind regards

From: D...
Sent: 18 March 2015 14:08
To:
Subject: DIO 21766-Bannauduon
Importance: High

With regards to the above planning consultation, we objected due to LOS to Aberporth and its close proximity to D202 Complex. I understand from Des we have reviewed 5 other consultations and are removing the objections as they were on the edge of coverage. This turbine is also on the edge coverage and the developer has said it is not financially feasible for them to move the turbine from the original location. Can please review this consultation in line with the other 5 consultations that have reviewed.

Please give me a call if you wish to discuss this further.

Kind Regards

Defence

Infrastructure

Organisation

12/06/2015

From: [Redacted]
Sent: 27 March 2015 11:30
To: [Redacted]
Subject: FW: DIO 21766-Bannaudon
Importance: High

With regards to my email below, have you had a chance to discuss this with [Redacted] as the developer has been chasing a response.

Please advise

Kind Regards

Defence

Infrastructure

Organisation

From: [Redacted]
Sent: 18 March 2015 14:08
To: [Redacted]
Subject: DIO 21766-Bannaudon
Importance: High

With regards to the above planning consultation, we objected due to LOS to Aberporth and its close proximity to D202 Complex. I understand from Des we have reviewed 5 other consultations and are removing the objections as they were on the edge of coverage. This turbine is also on the edge coverage and the developer has said it is not financially feasible for them to move the turbine from the original location. Can [Redacted] please review this consultation in line with the other 5 consultations that have reviewed.

Please give me a call if you wish to discuss this further.

12/06/2015

Kind Regards

X

... .. ing

Defence

Infrastructure

Organisation

From:
Sent: 21 April 2015 10:48
To:

Cc: Ceredigion Planning
Subject: A140863 - LAND AT BANNAUDUON, LLANARTH

Deddf Cynllunio Gwlad a Thref 1990 / Town and Country Planning Act 1990

Ymgeisydd / Applicant

Y Bwriad / Proposal Installation of 48m high (to blade tip) 225kw wind turbine

Safle / Location Land at Bannauduon, Llanarth

Cyfeirnod grid / Grid ref: 242037 253518

Fe'ch hysbysir trwy hyn fod y cais uchod yn awr wedi cael ei DYNNU'N ÔL.

This is to inform you that the above application has now been WITHDRAWN.

Regards



Gwasanaethau Ffordd o Fyw / Lifestyle Services
Cyngor Sir Ceredigion / Ceredigion County Council
Ffôn / Tel No: 01545 572135

Ymwadiad:

Er y cymerir pob gofal posib i sicrhau cywirdeb unrhyw wybodaeth a chyngor a roddir yn yr ohebiaeth hon, ni dderbynnir atebolrwydd am unrhyw golledion a all godi o unrhyw gamgymeriadau sy'n gynnwysedig ac fe'ch atgoffir o'r angen i chi ofyn am gyngor proffesiynol eich hun.

Bwriedir y neges ebost hon, ac unrhyw atodiadau iddi, at sylw'r person(au) y'i danfonwyd atynt yn unig. Os nad chi yw'r derbynnydd y cyfeiriwyd y neges hon ato ef neu hi, neu'r person sydd gyfrifol am drosglwyddo'r neges hon iddo ef neu hi, mi ddylech hysbysu'r anfonwr ar eich union. Oni bai mai chi yw'r person neu gynrychiolydd y person y cyfeiriwyd y neges hon at ef neu hi nid ydych wedi eich awdurdodi i, ac ni ddylech chi, ddarllen, copio, dosbarthu, defnyddio na chadw'r neges hon nac unrhyw gyfran ohoni.

O dan y Ddeddf Amddiffyn Data 1998 a Deddf Rhyddid Gwybodaeth 2000 gellir datgelu cynnwys y negest ebost hon.

12/06/2015

Disclaimer:

While reasonable care is taken to ensure the correctness of any information and advice given in this correspondence no liability is accepted for losses arising from any errors contained in it and you are reminded of the need to obtain your own professional advice.

The information in this email and any attachments is intended solely for the attention and use of the named addressee(s). If you are not the intended recipient, or person responsible for delivering this information to the intended recipient, please notify the sender immediately. Unless you are the intended recipient or his/her representative you are not authorised to, and must not, read, copy, distribute, use or retain this message or any part of it.

Under the Data Protection Act 1998 and the Freedom of Information Act 2000 the contents of this email may be disclosed.

12/06/2015

From:
Sent: 22 May 2015 15:14
To:
Subject: RE: Ref- A140863- Turbine at Land at Bannauduon
.. ..

Please could you provide me clarification on the below:

"Could you please supply all papers, notes, e-mails, documents, Reports, graphs, analyses, etc relating to the Ref- A140863- Turbine at Land at Bannauduon proposal and the associated MOD objection. If necessary please consider this an FOI request"

The MOD has recently stated that "The MOD does not issue "standard objections". All applications for wind energy developments are considered on their merits. We only object to planning applications for wind turbines where a thorough technical and operational assessment indicates that the development would result in an unmanageable impact on defence interests and operations."

So, the information requested should be readily to hand, and your response I hope will be very swift"

I look forward to hearing from you
Best regards

Project Manager

Email disclaimer

This email and any attachments are to be treated as confidential and may be legally privileged. The information may not be used or disclosed except for the purpose for which it has been sent. If you are not the intended recipient of this email please contact the sender immediately and destroy this email. Email is susceptible to data corruption, unauthorised amendment, viruses and unforeseen delays. The company does not accept liability for the consequences of any of these actions. Any views or opinions presented in this email are solely those of the author and do not necessarily represent those of the company. The company will not accept any liability in respect of any statements made in this email. No employee or agent is authorised to conclude any binding agreement on behalf of the company.

Registered Address: DC21 Ltd, Dene House, North Road, Kirkburton, W. Yorks, HD8 0RW
Registered Number: 6855349

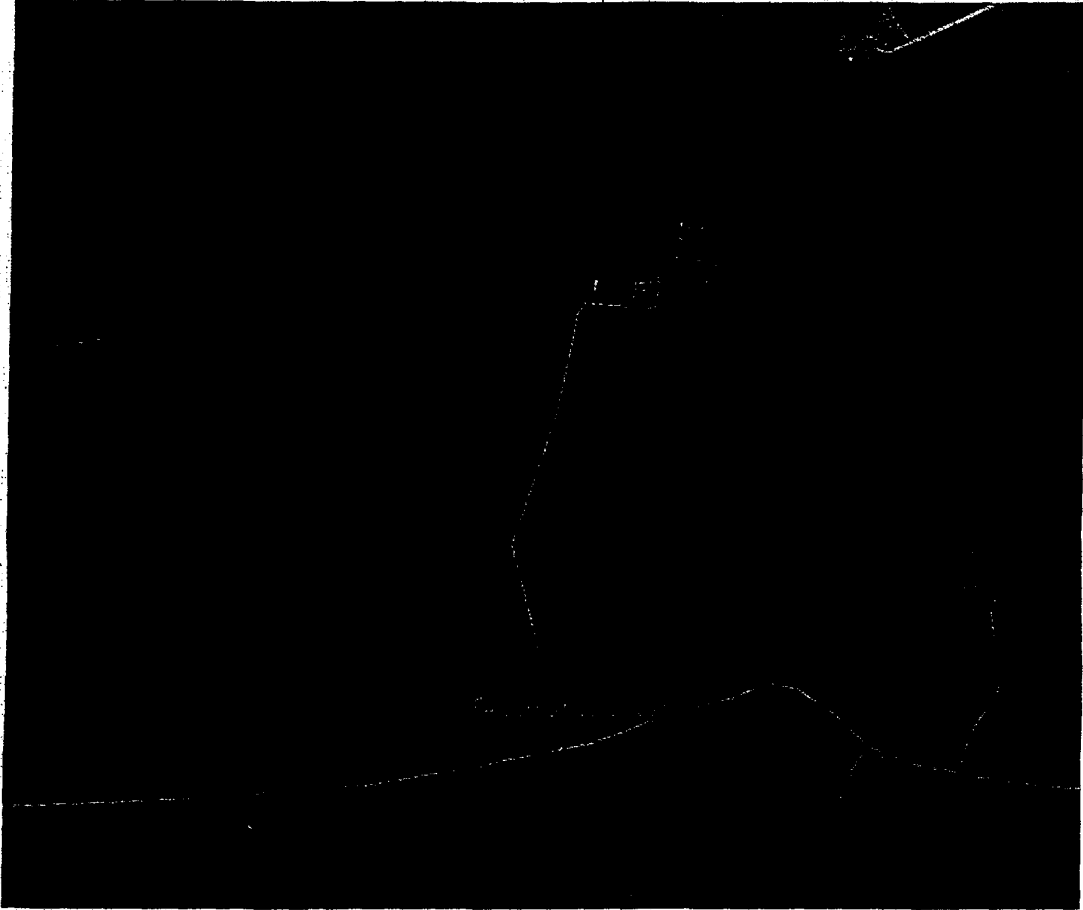
From:
Sent: 18 February 2015 10:23
To: 'DIO ODC-IPS SG2a2'
Subject: RE: Ref- A140863- Turbine at Land at Bannauduon

Hi

12/06/2015

It is very difficult for us to site the turbine with the scale of map you have provided.

I have attached an image below which highlights an alternative location for the turbine, the co-ordinates are as follows: 242183,253643.



Would reducing the size of the turbine in the current location resolve the issue?

Please could you advise.

Many thanks
Best regards

Project Manager


and Turbine Specialist

ward
rsiter,

12/06/2015

Website:

Email disclaimer

This email and any attachments are to be treated as confidential and may be legally privileged. The information may not be used or disclosed except for the purpose for which it has been sent. If you are not the intended recipient of this email please contact the sender immediately and destroy this email. Email is susceptible to data corruption, unauthorised amendment, viruses and unforeseen delays. The company does not accept liability for the consequences of any of these actions. Any views or opinions presented in this email are solely those of the author and do not necessarily represent those of the company. The company will not accept any liability in respect of any statements made in this email. No employee or agent is authorised to conclude any binding agreement on behalf of the company.

Registered Address:

From:
Sent: 10 February 2015 12:18
To:
Subject: RE: Ref- A140863- Turbine at Land at Bannauduon

With regards to the above planning consultation, the map that was sent to you is the only map that is provided.

Kind Regards

Defence

Infrastructure

Organisation

From: [Redacted]
Sent: 09 February 2015 16:10
To: [Redacted]
Subject: RE: Ref- A140863- Turbine at Land at Bannauduon

Hi

Thank for your email.

Would it be possible for you to send me a more detailed map so we can assess moving the site in more accurately.

12/06/2015

Many thanks

Best regards,

Project Manager



Website:

Email disclaimer

This email and any attachments are to be treated as confidential and may be legally privileged. The information may not be used or disclosed except for the purpose for which it has been sent. If you are not the intended recipient of this email please contact the sender immediately and destroy this email. Email is susceptible to data corruption, unauthorised amendment, viruses and unforeseen delays. The company does not accept liability for the consequences of any of these actions. Any views or opinions presented in this email are solely those of the author and do not necessarily represent those of the company. The company will not accept any liability in respect of any statements made in this email. No employee or agent is authorised to conclude any binding agreement on behalf of the company.

Registered Address: I

From: I

Sent: 09 February 2015 12:38

To: I

Subject: Re: A140863- Turbine at Land at Bannauduon

Further to our conversation earlier this morning, with regards to an objection that the MOD will be lodging with Ceredigion Council in relation to the above planning consultation. The technical advisor has stated there may be a possible mitigation solution. I have attached a coverage map showing that the turbine will be detectable by the Range Control radar at Aberporth. If the turbine was moved slightly to east out of the blue shaded area this would take it out of radar line of sight.

I hope this is of some help.

Kind Regards

Defence

Infrastructure

12/06/2015

