



Ministry of Defence

Ref: FOI2017/02002

Ministry of Defence
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7 March 2017

Dear 

Thank you for your email of 8 February requesting the following information:

"Copies of all Defence Air Safety Occurrence Reports containing any of the terms "wind turbine", "wind farm" or "windmill", submitted in the period 1 January 2014 to 31 December 2016. The report should contain the Report ID, Incident Type, Date of Occurrence, Brief Title, Description, and Perceived Severity."

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 the information in scope of your request is held.

The search (following filtering and subsequent removal of reports out of context (i.e. windmilling propellers and aircraft describing events where the term wind-turbine is simply used as a reference point for location e.g 5 miles North of Windfarm X etc)) returned 86 reports and the information you have requested can be found enclosed.

Under Section 16 of the Act (Advice and Assistance) you may find it helpful to note that the data has been extracted from the Air Safety Information Management System (ASIMS) which is the platform on which military Air Safety occurrences are recorded. ASIMS is a live system which is used by the military aviation community to report incidents at the time of occurrence. ASIMS records the severity of an occurrence based on the perception of the person reporting the incident, therefore the categorisation of incidents may change after further investigation.

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 me 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, Ground 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, <https://ico.org.uk/>.

Yours sincerely,

DSA Secretariat

ASIMS Data – FOI2017/02002

REPORT_ID	INCIDENT TYPE	DATE OF OCCURRENCE	BRIEF TITLE	DESCRIPTION	PERCEIVED SEVERITY	ASSESSED SEVERITY
asor\Lossiemouth - RAFXV(R) Sqn\Tornado\14\263	Hazard/Observation	13/01/14	Report of unmarked obstruction; DAAT-CFIT-LL	An unmarked 3 bladed wind turbine was sighted at 56D 39.65N 002D 42.37W (approx). No GPWS warning was given. After flight, the TAMPA was checked for chart and DVOF data but there was neither indication of an obstruction on the mapping nor in the DVOF file.	A - High	A - High
asor\Cranwell - RAFVATC - CRN\14\629	Hazard/Observation	22/01/14	Cranwell Radar Vector Chart Review - Height Discrepancies	<p>The following is an extract of the recommendations of a recently submitted Safety Survey that highlighted several discrepancies with the current Cranwell Radar Vector Chart. AIDU will require time to check and implement the required changes to the RVC and so this DASOR is submitted to highlight those issues in the interim. Cranwell ATC has implemented the corrected obstacle clearances based on the findings of the safety survey on a temporary overlay on all consoles to ensure safe operating separation from terrain can be maintained; "Recommendations Due to not having the tools, skill-set or the training required to ascertain the RVC in respect of terrain, the RVC will be checked in relation to spot heights and obstacle clearance on the UK low flying chart Sheet 2. It will have to be assumed that the extant RVC with respects to terrain is accurate and legal.</p> <p>1. After investigation I have discovered 6 anomalies, these are highlighted below along with suggested remedial action.</p> <p>a. The RVC in the vicinity of the wind farm 075° 36 nm (Skegness array) is 3 feet too low. I have 3 recommendations to mitigate this issue:</p> <p>i. Raise the sector south of the line to 1400 feet.</p> <p>ii. Move the line south to a bearing of 090° starting at the 24 nm point to 40 nm. (If a 3 nm avoid is required)</p> <p>iii. Move the same line so it is just south of the wind farm. (If you do not require a 3 nm avoid)</p> <p>b. My second observation is that the top of Belmont Mast 034° 21.7 nm has been removed, I recommend that the sector is reduced to 2400 feet.</p> <p>c. Two</p>	C - Low	C - Low

				<p>wind turbines roughly 305° 35 nm (Situating south of Wickersley) are within 3 nm of lower ground, if the avoid of these obstacles is 3 nm then I suggest another sector line to be inserted. 320° ranging from 16 nm to 40 nm. If this section was added then that should be at the height of 1600 feet, the remainder of the Northern section can remain at 1500 feet. d. The wind turbine in the vicinity of Netherthorpe 308° 32 nm will require the northern portion of the RVC is raised to 1600 feet in that sector. If the additional sector in point (c) was implemented, it would include the following wind turbine therefore making this recommendation irrelevant. e. The Sector in the west of our radar map is currently 2100 feet. If we are to avoid obstacles by 3 nm there is a Wind Turbine 280° 42 nm situated near Wirksworth and Middleton. If the avoid of this turbine is 3 nm then I suggest that that portion of the RVC is raised to 2200 feet. f. There is an obstacle near Homcastle 050° 17 nm which is within 3 nm of the lower sector. If we are to avoid this obstacle by 3 nm then I suggest that the arc south of that obstacle is to be moved south west by 3 nm so the arc is 13 nm from Cranwell. In the interim, on direction from SATCO. A new dynamic overlay has been created for display on the Radar Screens at Cranwell with new RVC heights to provide null; 1000' sepn against the obstacles highlighted in this SS. Yet again It should be stated that none of the personnel involved in this change have had any training or the skill-sets required." The required changes to the RVC have been submitted to AIDU.</p>		
asor\SARF - RAF\202 Sqn D Flt - Lossiemouth\Sea King\14\762	Hazard/Observation	26/01/14	Uncharted Obstruction	SRG 137 spotted 4 Uncharted Wind Turbines at NJ 778 553, approx 200 ft AGL	A - High	A - High
asor\Linton-on-Ouse - RAF\ATC - LIN\14\803	Hazard/Observation	27/01/14	RVC ANOMALIES	SATCO had received a letter from ATM Force Command in January 2014, dated 18 September 2013. The letter stated that a previous DASOR had been submitted for anomalies with Radar Vector Charts (RVC) at another unit and recommendations had been made for units to conduct independent checks. These were to include comparison of RADAR overlays with Mil	A - High	A - High

				<p>Flip documents; to superimpose the RVC onto a Mil low Fg/UK Special Air Chart; to conduct an assurance check of the controlling displays and to ensure they are the latest version and that they all matched. Finally, advise AIDU of any anomalies for amendment. The AIDU Website was checked and more than one RVC for Linton on Ouse was found. The RVC link from the Home Page still shows a version dated 30 Jun 11, whereas the link from UK AIP/UK MIL AIP AIRAC has a version dated 12 Dec 13. ATC Linton on Ouse had been using a RVC dated 14 Dec 13 which does not appear anywhere on the Website. All RADAR Consoles were and remain matched as they were immediately dynamically edited to reflect the extant RVC; dated 12 Dec 13. Following a request to AIDU, we received the updated change to Watchman RADAR mapping (an incorrect one was sent initially). I started to overlay the current Low Flying Chart. Several RVC Sectors had changed but the author could not confirm why a Sector had been extended 6° from the 025° Radial to the 031° Radial. Additionally another Sector to the North East had been changed from a 13D arc to a 12D arc impacting on a TACAN procedure to RW21RH, the main instrument RW. Ac would enter an area of high ground (2200') when flying the published procedure down to 2000'. No new obstructions can be found by the author to support the change. Locally controllers are aware of the RVC height and are briefed to descend ac iaw with the RVC. A 1700ft 3nm circle adjacent to the RW21 centreline is also of concern as the height, originally 1600ft, as well as position has been changed both by range and bearing from the RADAR head over the period Jun 11 to Dec 13. Only a spot height of 565ft can be found. Evidence is in place that the AIDU mapping information is gained from the Digital Vertical Obstruction File (DVOF) and Digital Terrain Elevation Data (DTED). This investigator has no access to these files or information and therefore is not in a position to assure that the RVC is or has been correct or accurate. Whilst the reason for change is published on each plate, there is no explanation for example as to why it is a new</p>		
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				chart. E.G. a new Wind Farm or aerial system erected or simply a recalculation of an elevation that affects plates etc. As the controller given this task to complete, I do not have the expertise or tools required and I am in no way qualified to offer any substantive level of assurance to the accuracy of the documents or their contents produced by AIDU. Through the methodology adopted and with little assurance of the accuracy of this method, I can offer only that there appear to be no obstructions that would compromise the 1000' safety margin that the current RVC protects.		
asor\Prestwick Airport\Gannet SAR Flt\Sea King\14\2148	Hazard/Observation	28/02/14	Observation of uncharted wind turbine	Navy 177 enroute to the Lake District sighted an uncharted 200' single wind turbine in the grounds of a small farm, at grid reference: NS 643 141.	D - Negligible	D - Negligible
asor\Benson - RAF\78 Sqn\Merlin\14\3016	Hazard/Observation	24/03/14	Windfarm under construction	On approaching a turn point on the M1, the NHP noticed a wind farm of approximately 6 turbines which had not been briefed and, on inspection, were not charted. The crew verified their position and continued en-route past the wind farm which, on closer inspection, appeared to be under construction. The wind farm is approximately centred at SP 777 519, consisted of 6 turbines with more sites prepared and each turbine was approximately 300' AGL. Their location corresponds with a 197' 1/4 mil marked mast which could not be identified which, in the crews estimation, was likely to be the anemometer mast used when sighting the wind farm.	B - Medium	B - Medium
asor\Benson - RAF\78 Sqn\Merlin\14\3441	Hazard/Observation	03/04/14	2 Uncharted Obstructions - SX30786921 & SX37509860.	An uncharted obstruction was noted at SX30786921. The obstruction was a G/S/U windmill approx 150' AGL. An uncharted obstruction was noted at SX37509860. The obstruction was a G/S/U mast approx 170' AGL.	C - Low	C - Low
asor\SARF - RAF\22 Sqn A Flt - Chivenor\Sea King\14\4007	Hazard/Observation	18/04/14	Unmarked single wind turbine	During transit for a routine training sortie, a single wind turbine was noted in position SS509299 (approx 5nm East of Bideford, Devon) at a height of 270' AGL, which was unmarked on both 25k and 250k maps of the area. Report sent to Yeovilton Ops and AIDU.	C - Low	C - Low

asor\Lossiemouth - RAF\XV(R) Sqn\Tornado\14\4954	Hazard/Observation	16/05/14	Unmarked Obstruction	Whilst flying at 250 feet in LFA 14, the crew of ALIEN 1 observed 2 wind turbines which were not marked on their charts. The location was marked and upon recovery other charts were checked. No obstruction is listed in that location on any mapping available through TAMPA. Position 5830.426N 00409.597W, 2 turbines visually assessed at approximately 200 feet	C - Low	C - Low
asor\Cranwell - RAF\ATC - CRN\14\5318	Hazard/Observation	21/05/14	TCAS RA CWL350	I was taking over the position of Approach from the off-going controller who had taken control of CWL350 (King Air) recovering from the NE for an SRA approach to RW26. He vectored the aircraft Southbound and descended over the top of the extended centreline to re-feed from the South. The aircraft was under TS and he pointed out a 1747 mode 3A squawk that had been called to the aircraft 4NM SE 2000feet below. He had also called Clutter to the South. The aircraft called not clutter but is traffic. 350k requested a turn to avoid which the controller gives approx 230 Heading. The previous controller then unplugs. 350K next call says 'TCAS RA request Deconfliction Service' I applied DS but had to avoid further clutter under DS, I gave Avoiding action Left turn Heading 190 degrees to avoid a primary contact which I believed at that time to be clutter. Once clear of any conflictors I turned the aircraft East and requested co-ordination on the 1747 and also co-ordinated with a Pipeline helicopter working with CWL Deps VHF. The aircraft was the vectored normally for an SRA.	C - Low	C - Low
asor\Barkston Heath - RAF\703 NAS\Tutor\14\6328	Hazard/Observation	10/06/14	Incorrect Feature Representaion on Chart	The turnpoint was a windfarm which was depicted on the map by two individual wind turbine symbols. This turnpoint has been seen by the instructor many times before and was familiar. On this flight, there were approximately ten extra turbines erected with one or two more still under construction.	D - Negligible	D - Negligible
asor\OOA RAF MPA\1564 Flt - MPA\Sea King\14\5876	Hazard/Observation	10/06/14	INCORRECT OBSTRUCTION HEIGHT INFO ON CHART AMENDMENT DOC 06/14	There are now 3 wind turbines approx 5nm South of Mount Pleasant A/F (IVO Mare Harbour). These have been incorporated into the MoD DGC CHAD for 1:50 000 map H792 Sheet 22 Ed 2, with	C - Low	C - Low

				heights listed as 61ft agl (84ft amsl) in CHAD 6/14. However, these turbines actually extend up to approx 200ft agl as observed on a local area recce. Furthermore, the new 1:250 000 Falkland Is Range and Avoids MAP GSGS 5563 lists these turbines as 200ft agl (276ft amsl), which is believed to be correct. The Flight Safety hazard here is that these obstructions are close to the commonly used poor weather helo route into Mount Pleasant A/F and, if this was to be used in conditions of low cloud and poor visibility, helo crews would naturally be using the 1:50 000 map for navigation and obstruction avoidance - but it is this map which contains the wrong obstruction height info and could lead to helo crews colliding with 200ft turbines which they have marked on their maps as 61ft agl. This hazard was spotted on pre flight planning.		
asor\Barkston Heath - RAF\703 NAS\Tutor\14\6544	Hazard/Observation	10/06/14	Unmarked Windfarm Sighted	During a medium to low level navigation landaway to Duxford an unmarked wind farm (approx 7 wind turbines 250ft AGL) was spotted during an IP to grid demonstration. The A/C was manoeuvred clear of the turbines which were close to the grid area directly on the planned route. On return from the sortie, flight planning were informed of the turbines who elected to inform the LFBC. At the request of the LFBC this DASOR is being completed. The wind farm was previously reported at 5210 N 00045W, however a more accurate assessment of the position shows the turbines to be located at 5209.1N 000 50.8W (near the town of Hartwell).	C - Low	C - Low
asor\854 NAS\854 NAS\Sea King\14\5911	Hazard/Observation	10/06/14	Observation of unmarked Wind Turbines	Two unmarked wind turbines were sighted in position SX 119 544. Wind turbines are not indicated on the latest OS Sheet 200, the LFC or either CU or VLN Master Wires list. Wind Turbines are unlit and approx 150ft	C - Low	C - Low
asor\Prestwick Airport\Gannet SAR Flt\Sea King\14\5890	Hazard/Observation	10/06/14	Mast	New mast discovered at NS89516953, approx 500'	C - Low	C - Low
asor\848 NAS\848	Hazard/Observation	25/06/14	Unmarked wind turbine	While conducting an NVG Navex an unlit wind turbine was found at grid SS83821329. It was	D - Negligible	D -

HQ\Sea King\14\6644				estimated to be 80'agl.		Negligible
asor\Lossiemouth - RAFXXV(R) SqnlTornado\14\6972	Hazard/Observation	02/07/14	Significant Mast hazard in TTA 20T; CFIT-LL	There appears to be an ever-increasing number of windfarms and associated whip aerials / masts in the Western portion of the 20T TTA (mostly West of the W004 30 Westing) which pose a significant hazard to aircraft low flying at 100ft in that area. Most are captured in the DVOF but due to the inherent delay in the information going into the aircraft from when the obstructions are identified, combined with how difficult some of the masts are to see, it is worth highlighting this hazard to other crews.	B - Medium	B - Medium
asor\Prestwick Airport\Gannet SAR Flt\Sea King\14\7097	Hazard/Observation	04/07/14	Uncharted obstructions x 2	During a medium level transit in poor weather, 2 uncharted obstructions were observed in the following locations: NS 818 695 - Whip aerial approx 300 ft agl NS 772 497 - Wind turbine approx 300 ft agl	D - Negligible	D - Negligible
asor\SARF - RAF\22 Sqn A Flt - Chivenor\Sea King\14\7342	Hazard/Observation	10/07/14	Unmarked Obstruction	An unmarked wind turbine was noted at position SS 225 109 / 50 51.52N 004 29.42W, NE of Bude. The height of the mast was estimated to be 250ft.	D - Negligible	D - Negligible
asor\Barkston Heath - RAF\703 NAS\Tutor\14\8143	Hazard/Observation	28/07/14	Increase in Number of Reported Wind Turbines	During a low level navigation sortie departing from Durham Tees Valley and returning to RAF Barkston Heath an increased number of wind turbines to that reported on the 1/4 mil chart was observed. At location N5355 W0028 (0.5nm West of Middleton on the Wolds) a single wind turbine is marked, there are now three wind turbines operating in that area. The turbines were avoided visually and the aircraft returned to Barkston Heath without incident. Flight Planning staff were informed and this DASOR raised.	C - Low	C - Low
asor\SARF - RAF\202 Sqn D Flt - Lossiemouth\Sea King\14\8251	Hazard/Observation	28/07/14	Uncharted Wind Turbine	An Uncharted Wind Turbine up to 300'agl was spotted at Grid Ref HY 544 318 (Eday Island, Orkney)	A - High	A - High
asor\Swanwick RAF (U)\Swanwick (Mil)\14\8108	Incident	28/07/14	Loss of separation and Hazard Observation	I was operating as Primary Planner. Console 2 was open controlling Voodoo formation, a pair of Tornado's general handling in OTA E. I was controlling EZE81LK who was approximately 70NM South of Aberdeen, tracking North. I had	B - Medium	B - Medium

				<p>taken a pre-note on EZE31Z, routing through P18 to Aberdeen and issued a squawk, level and frequency to the Tay Sector. As EZE31Z was just North of NATEB I noticed a primary radar contact which would be in conflict. As this aircraft was not yet on my frequency I phoned Tay and informed the controller that EZE31Z had traffic left, 11 o'clock at 12 miles and if the aircraft had nothing sighted to turn right 30 degrees as I was concerned that standard deconfliction minima would not be achieved against this contact. The Tay controller informed me that he had just released EZE31Z and during this conversation EZE31Z called me on 124.050MHz. A primary radar contact popped up in the aircraft's 12 o'clock at 0.5 NMs. My initial transmission to EZE31Z was "EZE31Z, Swanwick Mil identified FL185, Deconfliction Service, avoiding action, turn right immediately heading 090 degrees, traffic 12 o'clock, half a mile, no height information". The aircraft took the avoiding action turn, to re-establish deconfliction minima against the closest primary return and to achieve standard deconfliction minima against the other primary contact. Once the aircraft was clear of conflict and standard separation had been achieved, I placed the aircraft on to a Northerly heading. Text amended using OM's account for accuracy.</p>		
<p>asor\Prestwick Airport\Prestwick - ATC\14\8712</p>	Hazard/Observation	12/08/14	Masts	<p>Displayed on OS maps there a 2 wind Pumps/Generators marked at position NM 7437 0760. The symbol is very difficult to see and would easily be missed in a high workload environment. In reality there a 3 wind turbines in this location each in excess of 200'.</p>	C - Low	C - Low
<p>asor\Barkston Heath - RAF\674 AAC\Tutor\14\8686</p>	Incident	12/08/14	BKH Tutor in CWL MATZ	<p>I was the RA controller when I received a land line call from CGY with traffic information on a low level squawk. The information was passed on the aircraft NE of CWL tracking southbound through the gap between CWL & CGY not above 500' routing towards Donnington wind farm. I said that I had no traffic to affect and hung up. Approx 5 mins later I noticed the same low level squawk now inside the MATZ, I phoned CGY and asked for traffic information, they informed me it was a BKH</p>	C - Low	C - Low

				track requesting a hand over for visual recovery, I asked the controller to route him southbound immediately. The ac had already informed CGY App that he was free calling, the ac continued to track westbound directly towards the CWL cct. The ac eventually called App when he was inside 2nm, I asked the ac to take up a southerly track to remain clear of the CWL vis cct. The ac, now identified as BKH 39, recovered visually back to BKH.		
asor\SARF - RAF\202 Sqn A Flt - Boulmer\Sea King\14\8985	Hazard/Observation	20/08/14	windfarm clam door damage during winching exercise	During the airborne briefing process for a windfarm winching serial the robustness of the clamshell doors was discussed in relation to the downwash. As prior exercises in similar conditions had been successful the robustness issue was not considered significant. A dummy serial was run with no issue. During a subsequent live winching serial as the winchman approached the nacelle he noticed one of the clamshell doors moving excessively. He requested a winch in and the exercise was terminated. The aircraft landed on nearby and discussed the issue with the windfarm engineers who confirmed the door was indeed damaged. It was not clear whether this was as a result of the downwash. The serial was subsequently continued though as a precaution it was completed without live winching and with the clam doors closed.	D - Negligible	D - Negligible
asor\Lossiemouth - RAF\XV(R) Sqn\Tornado\14\9110	Hazard/Observation	26/08/14	UNCHARTED OBSTRUCTION; DAAT CFIT-LL	Whilst low flying in LFA 14, 3 wind turbines were noticed at approximate position 56 11.900N 005 36.400W on the southern tip of a small island about 20nm South of Oban. The turbines are approximately 150ft tall.	C - Low	C - Low
asor\Lossiemouth - RAF\ATC - LOS\14\9200	Incident	28/08/14	Response to Civil MOR RFR7060/7061	This DASOR has been filed in response to a Civil MOR RFR 7060/7061 departed Lossiemouth to join controlled airspace at FINDO. When giving the release to ground I was given squawks of 5671 and 5673 respectively and a frequency of 124.5 I confirmed with ground that Tay sector wanted me to call back for handover. RFR 7060/7061 got airborne with a streamed departure for a snake climb to FL240. They were told to report holding hands. They acknowledged this and requested	C - Low	C - Low

				<p>own navigation, heading 140 degrees, which they were given. After approx 5 track miles they requested heading 160. A primary contact south east of Lossiemouth was called and they maintained heading 140 until clear of this. This contact is believed to be a windfarm however no reference to this was passed with the TI. Once clear of this traffic and established on heading 160 I called Tay sector for a hand over. During this call traffic was called in RFR7060's left 11 o'clock at fl240 with the instruction to stop climb fl200 if not sighted. RFR then requested to operate in the block FL 190-200, which they were given. During this Tay stated they would call back. The conflicting traffic then started descending, RFR were given avoiding action onto heading 090 to avoid. This heading took the aircraft to the north of Aberdeen zone. At this point Los11 departed Lossiemouth on a SID 05A climbing to work with Swanwick Mil. Once Lossie 11 was established in the climb I rang Tay sector again to try and hand over RFR7060/7061. Tay asked if the aircraft were in formation, because they wouldn't normally take a pair until they were in formation or 5 miles apart. I told them that they had yet to call holding hands and that I wanted them off my frequency as soon as possible. Tay then gave me what I believed to be an airways joining clearance on track FINDO climbing FL220. I already had the squawks and freq passed by ground. I took the issuing of this airways joining clearance as Tay being happy to take RFR7060/7061 when they were clear of conflict. The aircraft were given the clearance and read it back. They were given own navigation FINDO and at this point the supervisor told me to ensure that they were handed over soon because of the controlled airspace. I then put the Scottish squawks on the aircraft and told them to continue with Scottish Control.</p>		
<p>asor\SARF - RAFV202 Sqn E Flt - Leconfield\Sea King\14\9858</p>	<p>Incident</p>	<p>11/09/14</p>	<p>Unsatisfactory Equipment - AMMWAS tablet</p>	<p>As part of a categorisation check, I was the captain between the seats, and had asked the crew to conduct a LL route recce for the night sortie. As I had the capacity between the seats, I took control of the AMMWAS tablet to assist with hazard warning/avoidance, especially with the</p>	<p>B - Medium</p>	<p>B - Medium</p>

				<p>poor visibility due to haze. The first issue was that despite turning the tablet on 30 mins before I needed it (the first part of the sortie was overwater, therefore no need to waste the battery) It took 25 mins for the tablet to pick up a valid GPS signal. (I have done another sortie where it didn't get a valid GPS signal for the whole 1.30). More disturbing though was that it regularly warned us about small telegraph type wires, but did not warn us about the 250'+ wires or at all (ie did not flash red when it came within either the 3 nm range or 1 nm range arc). It also failed to warn about several wind farm masts that were marked on it. On one occasion I got the crew to fly directly at one of the turbines, it correctly alerted us with 3 miles to go, we turned away so that it was now outside the arc, then turned back but this time it did not alert at all, even when it came within the 1 nm arc. This does not give me confidence that it will alert obstructions, and people may place too much reliance on it and forsake basic map reading skills. I delayed submission of this DASOR as I wanted to check that the settings were correct and needed to confirm this with the settings on use at Boulmer and Lossiemouth.</p>		
<p>asor\SARF - RAF\202 Sqn E Flt - Leconfield\Sea King\14\9975</p>	Hazard/Observation	18/09/14	Unmarked Wind Turbine	<p>During a low level transit due weather an unmarked wind turbine was noted at grid TA026506 (Sheet 106). It appeared to be unlit and extended vertically to approximately 150ft agl. This turbine is particularly noteworthy due to its close proximity to the recognised poor weather route used by Leconfield-based SAR helicopters recovering to base from the coast along the Bridlington to Beverley railway line.</p>	C - Low	C - Low
<p>asor\Middle Wallop\670 Sqn\Squirrel\14\10128</p>	Hazard/Observation	23/09/14	Uncharted/Incorrectly charted obstructions	<p>Whilst on an NVG recce from Middle Wallop to the South of the SPTA it was noted that a crane was incorrectly charted and another uncharted. The first was a crane, charted as 80' unlit at GR ST 898 385. This was assessed to be 100' by comparison to the rad alt. The second was an uncharted crane assessed to be a mobile unlit crane up to 100' at GR ST 880 379.</p>	C - Low	C - Low

asor\Prestwick Airport\Gannet SAR Flt\Sea King\14\10670	Hazard/Observation	06/10/14	New obstruction sighted Galloway hills	During a routine LL navex in the Galloway hills a new single whip mast was seen by the crew. An overflight of the mast was conducted, it is a single lit whip mast approximately 260' AGL and a check using GPS vs the map confirmed it was uncharted at position NX255665.	C - Low	C - Low
asor\SARF - RAF\202 Sqn E Flt - Leconfield\Sea King\14\11903	Hazard/Observation	06/11/14	Uncharted Wind Turbine	Whilst conducting an airtest, a 225 ft uncharted wind turbine was sighted at TA 0422 4878.	C - Low	C - Low
asor\Prestwick Airport\Gannet SAR Flt\Sea King\14\12108	Hazard/Observation	12/11/14	Uncharted obstructions, whip aerial & wind turbine	Uncharted 200' whip aerial NS 282 866; 150' wind turbine NN 873 490	C - Low	C - Low
asor\SARF - RAF\202 Sqn E Flt - Leconfield\Sea King\14\12776	Hazard/Observation	27/11/14	Obstructions not marked on 1:50000 maps	On return from a routine training sortie in visibility of ~1500m, SRG128 transited at low level on standard 'bad weather' route from Bridlington to Leconfield. Navigation was completed primarily using a pre-prepared 1:50000 map, along with AMMWAS (Aircraft Moving Map Wires Alert System) for situational awareness and wire avoidance. During this relatively short navigation route, there were 2 occasions where significant obstructions were not displayed on the 1:50000 map. The first was a 125ft AGL (estimated) wind turbine 100m N of position N54:01.08 W000:21.82. The second was a wind turbine very close to Leconfield - approximately 1nm N of E Flt dispersal, to the WSW of Decoy Wood and W of a railway line. Despite not being evident on the 1:50000 map, the second turbine was highlighted on the AMMWAS. The fact that there are significant obstructions close to our operating base which are not shown on the map used for low level / poor weather navigation is very concerning.	B - Medium	B - Medium
asor\Prestwick Airport\Gannet SAR Flt\Sea King\14\13401	Hazard/Observation	14/12/14	NEW HAZARD/OBSTRUCTION	New Wind Turbine found at Grid: NR 362 517. Height: 180' AGL (Approx), unknown lighting. Ground works indicate further turbines could be constructed in same location. Report sent to: CAS-AS LFOS Ops LF (MULTIUSER) & DVOF (MULTIUSER) iaw UKMLFHB	B - Medium	B - Medium

asor\Lossiemouth - RAF\XV(R) Sqn\Tornado\14\13451	Hazard/Observation	15/12/14	Uncharted Windmills; DAAT CFIT-LL	Whilst low flying in NLFA 1D a pair of unlit windmills were noted at approximate position N56 56.000 W002 25.000. The windmills appeared to be about 300ft high.	C - Low	C - Low
asor\Lossiemouth - RAF\XV(R) Sqn\Tornado\14\13452	Hazard/Observation	15/12/14	Uncharted windmills; DAAT CFIT-LL	Whilst low flying in NLFA 1D a pair of unlit windmills were noted at approximate position N57 30.000 W002 32.000. The windmills appeared to be about 300ft high.	C - Low	C - Low
asor\815 NAS\815 HQ\Lynx\14\119	Hazard/Observation	18/12/14	Unmarked Wind Turbine	Whilst conducting Diversion Navigation during a planned NAVEX, a 400ft Wind Turbine, unmarked on both the 1/4 Mil and 50 Thou maps (both on up to date CALF and CHAD), was sighted at position N51 30.48 W003 05.87.	C - Low	C - Low
asor\SARF - RAF\202 Sqn E Flt - Leconfield\Sea King\15\45	Hazard/Observation	05/01/15	Uncharted wind turbines.	S128 was recovering to Leconfield along a "foul weather route" (in order to familiarise a visiting pilot with it) when two uncharted wind turbines were seen in close proximity to the route. The first was at grid TH 042560 and was approximately 225 ft high, while the second was at grid TH 028448 and was approximately 150 ft high.	C - Low	C - Low
asor\771 NAS\771 NAS\Sea King\15\1092	Hazard/Observation	03/02/15	Uncharted Obstructions	During a navigation exercise in support of Trial GECCO 2, the following uncharted obstructions were observed: 80' Whip Aerial SX 101 634 200' Wind Turbine SX 308 694 80' Wind Turbine SX 355 562 80' Whip Aerial SX 392 602	C - Low	C - Low
asor\Brize Norton - RAF\24 Sqn\Hercules\15\1094	Incident	03/02/15	Out of Date Aircraft Mapping	Whilst flying Task 068A (Callsign BRASSNECK 1), it was noted that the aircraft Digital Map Unit (DMU) was displaying information significantly different to the charts produced in Flight Planning. Upon closer inspection, it was found that the data on the UK Day Low-level RMM in the aircraft was so far out of date that it showed RAF Cottesmore as an active MATZ (no expiry date visible), whilst the UK Night charts on the other RMM card were also 1 year out of date (these charts showed an expiry date of 05 Feb 14). The sortie was conducted as planned, using the planning produced charts for airspace and obstacle information with the DMU being used for reference only. Upon landing, the engineers were informed	C - Low	C - Low

				<p>and the issue was raised as a SNOW. This is a recurring theme with the C-130J and discussion around other pilots has revealed that despite regularly reporting the problem to the engineers, there is no system to ensure that map cards are systematically updated. The aircraft Worldwide Nav Database (WWNDB) is updated by the engineers on a monthly cycle, but the monthly AIRAC cycle for digital map products is not notified to the engineers, and thus they only update the map cards when the aircrew report a problem. There is also no place in the F700 for DMU currency data to be recorded and therefore no way of crews checking until they arrive at the aircraft. This has potentially serious flight safety implications, particularly for airspace and obstacle information when conducting low flying in the UKLFS, which is busy and congested airspace. It has particular relevance for OLF in Tactical Training Areas, where safety margins are reduced due to the lower MSD flown. With the proliferation of windfarms and masts in the UKLFS, the aircraft mapping must be as up to date as possible to maximise aircrew SA and avoid any potential incidents. It is my opinion that this matter required urgent review, and a system should be put in place without delay to ensure that aircrew can trust the map products with which they are provided.</p>		
asor\825 NAS\825 NAS\Wildcat\15\1326	Hazard/Observation	06/02/15	Unmarked Obstructions	<p>During transit, 3 wind turbines were noticed in the vicinity of Roadford Lake. Aircraft's charts were consulted, 1/4 mil chart at CALF 02 was loaded and obstructions not marked. Positions noted with approximate height of 100ft observed. On completion of the next sortie the hazards were reported to VLN Air Ops, NOTAM issued. Position of the obstructions were: N50 41.31 W004 13.88 N50 39.76 W004 16.83 N50 38.96 W004 17.71</p>	C - Low	C - Low
asor\SARF - RAF\202 Sqn E Flt - Leconfield\Sea King\15\1428	Hazard/Observation	11/02/15	Uncharted Wind Turbine	<p>On a routine training sortie from Leconfield, a 250ft wind turbine was sighted at TA0714 5393. This was not plotted on any chart.</p>	B - Medium	B - Medium
asor\SARF - RAF\22 Sqn A Flt - Chivenor\Sea	Hazard/Observation	17/02/15	Unmarked Obstacle	<p>Unmarked Wind Turbine 300' 5042.268N</p>	D - Negligible	D -

King\15\1600				00425.044W		Negligible
asor\SARF - RAF\22 Sqn A Flt - Chivenor\Sea King\15\2411	Hazard/Observation	09/03/15	Multiple Obstructions marked as Single Obstructions on 1/4 Mill Special Air Chart	A No of multiple wind/aerial "farms" are marked as single obstructions on SAC Sheet 1 at the following locations: 2 aerals ivo ST 458411, 2 wind turbines ivo SS 280158, 3 wind turbines ivo SS 301133, 2 wind turbines ivo SS 513212 and 3 wind turbines ivo SS 518441. Marking these as multiple obstructions rather than single ones makes for easier visual navigation in their vicinity. Furthermore, marking them as multiple obstructions reduces concern that one has possibly discovered an unmarked obstruction, with the concomitant responsibility to plot position, estimate height and then report it to DGC. Of note, the aerals ivo ST 458411 are marked as unlit when in fact they do have obstruction lights on the top of them. Whilst the FS risk here is perceived as pretty low, this chart inaccuracy issue is being raised via DASOR iaw HQ 2Gp FS staff guidance.	C - Low	C - Low
asor\Lossiemouth - RAFXXV(R) Sqn\Tornado\15\3756	Hazard/Observation	15/04/15	Unmarked Obstacle; DAAT CFIT-LL	An unmarked obstruction was found at 57D 19.175N 002D 52.585W. It was a large wind turbine under construction and was not shown on the ac 1:500k or 1:250k mapping. After landing, TAMP was checked and the obstruction was not present in the DVOF, nor in the latest CALF.	C - Low	C - Low
asor\Shawbury - RAF\705 NAS\Squirrel\15\3848	Hazard/Observation	20/04/15	Low Flying Chart Amendments	Whilst conducting a low level route recce a number of obstruction inaccuracies were identified on the current Sheet 3 1:250 000 map. The Map series used was: Series M5219 - Air Sheet 3 Edition 30-GSGS Suggested amendments are as follows: Mast obstruction listed at SH 334 373 moved to SH 350 363 and re listed as a wind turbine with similar height markings (251 / 160). Two new Wind Turbines to be added at SH 468 465 and SH 468 468 indicating an obstruction height of 150' AGL (3rd turbine under construction at the site was observed). Mast (Lit) currently listed at SH 546 727 (Menai Bridge, Anglesey) 596 / 350 does not exist and should be removed. Sheet 114 1:50 000 map: Domestic wires become suspended wires across a valley feature at point	B - Medium	B - Medium

				SH 557 737 to SH 559 737.		
asor\Lossiemouth - RAF\XV(R) Sqn\Tornado\15\3941	Hazard/Observation	21/04/15	Uncharted obstruction LFA14. DAAT CFIT-LL.	Whilst low flying in LFA 14, a single windmill was noticed IVO N5651 W00231. The windmill was approximately 300ft high.	C - Low	C - Low
asor\846 NAS\846 NAS HQ\Merlin\15\4320	Hazard/Observation	28/04/15	Uncharted Obstruction	Uncharted obstruction (wind turbine) was sighted at grid SX 3450 9980, height 250' AGL. Reported to Yeovilton Air Ops upon landing.	C - Low	C - Low
asor\Brize Norton - RAF\47 Sqn\Hercules\15\5296	Incident	26/05/15	Sighting Of An Unmarked Mast	Whilst conducting an Operational Low Flying sortie in LFA 20(T) an unmarked whip aerial was observed at position: N5512.95 W00408.90, height 150ft agl.	B - Medium	B - Medium
asor\Middle Wallop\670 Sqn\Squirrel\15\5877	Hazard/Observation	10/06/15	Unmarked vertical obstructions sighted within LFA 1	Unmarked vertical obstructions along NVD Route Purple: - 200' unlit Mast IVO Old Sarum SU 146 336 - 82' Single unlit mast IVO Wilton SU 086 321 amend to Multiple Unlit Masts 90' - 70' unlit Mast IVO Little Langford SU 043 365 - 30' unlit Mast IVO Hanging Langford SU 033 364 - 80' unlit Mast IVO West Hill SU 009 358 - Domestic wires 40' IVO Wyllye handrailing E side of track from SU 009 373 to SU 008 360 - 40' unlit Mast IVO A303/A36 Jcn SU 008 393 - 80' unlit Mast IVO Parsonage Down Fm ST 899 387 -80' unlit Mast IVO Corton Hill ST 938 389 Marked obstruction on local 50 000 map that is missing height: - 10' Mast IVO Deptford Down SU 034 415 Marked obstructions on local 50 000 map that are not on the ground: - 98' unlit Mast IVO Great Ridge Wood ST 953 357 - 814' AMSL 200' AGL Single Wind Turbine ST 888 386 NOTAM Amendments: - 1 x Crane IVO Boyton amend to 2 x Crane 200' SU 951 402	B - Medium	B - Medium
asor\846 NAS\846 NAS HQ\Merlin\15\7532	Hazard/Observation	21/07/15	Multiple uncharted obstructions in LFA2.	During a daytime recce of a Level B/A route, a number of new uncharted obstructions were sighted which were not on either the Low Flying Chart, Powerline & Obstruction overprint of the 1:50,000, or the Master wires map on the squadron. These were as follows:- ST 7820 1080 - Windmill 150' ST 7990 0794 - Whip mast 150' ST 7600 2200 - Double Masts 200' SY 6320 9760 - Wind turbine 120' SY 5220 8930 - Silo (on farm) 130' ST 1358 1111 - 2 x Wind Turbines 120'	C - Low	C - Low

				ST 2058 0908 - Double masts 100' ST 2250 2100 - Mast 100' ST 2520 2330 - Double masts 120' ST 2050 0560 - Mast 120' ST 2124 0081 - Mast 150' ST 2650 2540 - Mast 120'		
asor\Lossiemouth - RAF\XV(R) Sqn\Tornado\15\9175	Hazard/Observation	07/09/15	UNMARKED OBSTRUCTION. DAAT CFIT-LL.	Whilst low flying in LFA 14, an unmarked 2-300ft tall Wind Turbine was observed in the car park of the Lecht SKI CENTRE - Position 57 11.932N 003 14 819W.	C - Low	C - Low
asor\Brize Norton - RAF\24 Sqn\Hercules\15\9477	Hazard/Observation	15/09/15	Uncharted Obstruction	Windfarm (6-8 turbines estimated) spotted ivo N52 41.0 W000 03.0 of approximately 150-200ft height. Turbines not lit. Additional turbines under construction in this location. Turbines not depicted on 1/2 mil LFC and not evident from JAMPA obstruction overlay or from CALF document.	C - Low	C - Low
asor\Shawbury - RAF\60(R) Sqn\No Aircraft\15\9542	Hazard/Observation	17/09/15	Potential Omission of Rotary Dispensation for CANPs Avoidance	Whilst assisting in the planning of a RW sortie a potential confliction with a Z class NOTAM was noted. Previously RW were given dispensation to ignore the avoidance criteria wrt Z class NOTAMs, (these always refer to CANPs) which instead were only given a see and avoid status. This dispensation is no longer to be found in either the UKLFSHB on the RA documents. Is this by intent or an omission, for it has potentially unnecessary and onerous restrictions on RW operations?	C - Low	C - Low
asor\Benson - RAF\33 Sqn\Puma\15\9705	Hazard/Observation	22/09/15	Uncharted Obstructions	During a low level transit between Cranwell and Benson two obstructions were sighted by the crew that were not marked or issued via NOTAM. These were: SP 70897 69741 Crane 150ft AGL / 550ft AMSL (est.) SP 71583 83388 Wind Turbine (Single Unlit) 150ft AGL / 600ft AMSL (est.) DVOF notified by email dated 22 Sep 15.	D - Negligible	D - Negligible
asor\Lossiemouth - RAF\XV(R) Sqn\Tornado\15\9984	Hazard/Observation	29/09/15	UNMARKED OBSTRUCTION OBSERVATION. DAAT ADRM.	Whilst low flying in LFA 14, a single wind turbine was noticed on the island of Coll off the west coast of Scotland at approximate position 56 39.300N 006 33.830W. The turbine is approximately 200ft tall.	C - Low	C - Low
asor\846 NAS\846 NAS HQ\Merlin\15\10514	Hazard/Observation	13/10/15	Uncharted Obstructions	Whilst conducting a Level C NVD transit the following uncharted obstructions were observed.	C - Low	C - Low

				Windturbines estimated at 200' AGL at grids ST 6544 5926, ST 6525 5883, SK 1300 2100.		
asor\1 Regt AAC\652 Sqn\Wildcat\15\11156	Hazard/Observation	30/10/15	UNMARKED OBSTRUCTIONS OBSERVED.	Whilst carrying out an NVD Recce, the following unmarked hazards were observed: ST97904268 - 40' Domestic wind turbine ST99905258 - 130' Mobile phone mast ST69614253 - 50' Antennae ST68444229 - 90' Mast ST64834200 - 120' Mast.	C - Low	C - Low
asor\846 NAS\846 NAS HQ\Merlin\15\12694	Hazard/Observation	10/12/15	Uncharted Obstruction LFA 1	On a Level C NVG transit an unmarked unlit wind turbine was observed at OSGB grid reference SU 4187 9182. The height of the turbine was estimated to be 80 ft AGL.	D - Negligible	D - Negligible
asor\Marham - RAF\12(B) Sqn\Tornado\16\481	Hazard/Observation	15/01/16	Obstruction not in DVOF database	During the low level portion of a training flight, the aircraft was operating at 250ft AGL to the south of Kings Lynn whilst positioning to RTB to RAF Marham. During the phase of flight there were a number of obstruction warnings including one showing to the left triggered by an obvious windfarm in the northern part of a South-West flow system. The obstruction warning was commented on as being triggered by the wind farm and the pilot stated that he was visual with the obstruction and that it was no factor. As the wind farm moved further to the left of the aircraft the warning ceased. The pilot then became aware of another obstruction directly ahead of the aircraft, the top of which was broadly level with the aircraft at the time. The structure was a thin mast, the type of which is often constructed next to a windfarm or prior to the main farm being built. The aircraft rapidly climbed to approximately 500ft AGL and MSD was maintained directly over the top of the mast. The pilot assessed that the aircraft was pointing directly at the obstruction and that the aircraft would have passed within 100ft of the top of the mast had it not been sighted at range. Upon landing the TAMPA mapping was checked and the mast in question was found to be annotated on the 50k TLM chart as a 262ft obstruction. Of note, this was not included in the DVOF overlay, nor was an obstruction warning generated in the aircraft at the time of the conflict. The position of the obstruction (from the TAMPA 50k TLM chart) was shown to be 52	B - Medium	B - Medium

				44.760N, 000 09.899E and 9ft. Due to the late pick-up of the obstruction in the aircraft it was not possible to get a position read out from on top of the mast at the time of conflict.		
asor\Odiham - RAF\ODI - 27 Sqn\Chinook\16\558	Hazard/Observation	17/01/16	Uncharted obstruction	During a medium level the following uncharted obstructions were noted: Obstructions: 6 x wind turbines - Height: Approx 410' agl (gauged against other charted wind turbines in the area) Location: SE 85941641 Obstruction was observed in daylight conditions and was unlit	D - Negligible	D - Negligible
asor\Marham - RAF\ATC - MRM\16\1291	Hazard/Observation	04/02/16	Unauthorized MATZ penetration	2x Rotary air systems contacted Marham LARS on VHF 124.150 approximately 1320z for intermittent traffic information while operating to the NW of Marham at low level. No service was requested or provided and initially no contact was seen on radar. The rotary aircraft checked in again 15 minutes later stating they were moving to the East of Marham. The DRDF trace went through 2 primary contacts 5 nm North of Marham and 2 rotary aircraft were observed in low level transit North of the airfield from the windows in the tower, corresponding to the radar returns. These tracks then turned south and crossed Marham's approach lane (RW24) at 3.5nm. At this point, approximately 1343z the rotary aircraft contacted Marham LARS again asking if Marham had any traffic to affect as they were now operating to the East of Marham. Marham LARS controller asked if a service was required- the answer was negative. Marham LARS controller informed the formation of their position at 4 miles in the approach lane and inside the Marham MATZ, requesting that they move further East, outside the MATZ and remain East of the wind farms (approx 6 miles SE) to remain clear of inbound traffic. The Marham Radar Training Circuit was active at the time with one aircraft, the safety of this aircraft was not compromised due to its position in the circuit at the time of the incident. The formation continued to the EAST and left the Marham LARS frequency. The rotary formation seemed to be unaware of their proximity to Marham and that they had entered the MATZ without permission.	C - Low	C - Low

asor\Odiham - RAF\ODI - 18 Sqn\Chinook\16\1657	Hazard/Observation	12/02/16	Uncharted Obstruction.	Transiting low level from Gloucester area towards Brize Norton a pair of uncharted Wind Turbines approx 120ft were sighted at grid SO 9059 6564. They were spotted a good distance out and it was subsequently seen they were not marked on either the 250k or 50k mapping or the mapping in the aircraft.	D - Negligible	D - Negligible
asor\846 NAS\846 NAS HQ\Merlin\16\1923	Hazard/Observation	18/02/16	NEW LOW LEVEL OBSTRUCTIONS SIGHTED	Whilst conducting a NVD level A Recce the following obstructions were sighted: Wind Turbine ST1325 1765 80'AGL Mast ST 1940 2015 80'AGL Mast ST 1975 2025 80'AGL Mast ST 2020 2050 80'AGL	D - Negligible	D - Negligible
asor\Shawbury - RAF\660 Sqn AAC\Squirrel\16\2174	Hazard/Observation	24/02/16	Unmarked Wind Turbine	On approaching Whitchurch a wind turbine was found to not be marked on the map SFC 1:250,000 M5219-AIR, sheet 3, Edition 32GSGS with CALF No2 (04 Feb 16). The windturbine was approx SJ517426 and about 80FT AGL. On checking the 1:50,000 Shawbury NW chart the wind turbine was hand annotated as per the latest Chart Amendment Document.	D - Negligible	D - Negligible
asor\Wattisham - AHFWAT - AHF\Apache\16\4391	Hazard/Observation	19/04/16	Unmarked Obstructions found on NVS Recce	Small wind turbine, ~50' ivo GR TM397503 Whip antenna, ~100' ivo GR TM 317436	C - Low	C - Low
asor\Odiham - RAF\ODI - 18 Sqn\Chinook\16\4356	Hazard/Observation	19/04/16	Unmarked obstruction	Wind turbine (ht 210') observed at grid SS 4567 1167	D - Negligible	D - Negligible
asor\Odiham - RAF\ODI - 18 Sqn\Chinook\16\4363	Hazard/Observation	20/04/16	Unmarked Obstructions	I was unable to find a specific proforma for 'Unmarked Obstructions', hence this format. On a low level sortie two wind turbines in separate locations were seen, that were not marked on the electronic maps carried. Each turbine's blades were visually judged to be 220ft AGL. The two grids were SK 107 206 and SK 327 106. They posed no risk to us as visibility was excellent and it was daytime.	D - Negligible	D - Negligible
asor\846 NAS\846 NAS HQ\Merlin\16\4679	Hazard/Observation	28/04/16	List of uncharted obstructions identified during EX GRIFFIN STRIKE 16.	The following obstruction hazards were identified as part of an area recce and subsequent flying operations during EX GRIFFIN STRIKE 16, between 16 Apr 16 and 23 Apr 16, as being uncharted on Special Air Chart Sheet 1	B - Medium	B - Medium

				(1:250,000), Series M5219-AIR, Edition 33, CALF state 4/16 and uncharted on M726-AIR (1:50,000), Sheets: 158-Edition 1, 159-Edition 1, 160-Edition 1, CHAD state 04/16. Grid Reference Obstruction Height Lit SN 0360 0190 Wind Turbine 100? N SN 0750 0300 Wind Turbine 120? N SN 0890 0310 Wind Turbine 120? N SN 0890 0510 Wind Turbine 120? N SN 1520 1470 Mast 250? N SN 1610 1480 Mast 250? N SN 1910 1300 Wind Turbine 250? N SN 2140 1520 Mast (Multi) 180? N SN 2920 1220 Wind Turbine (Multi) 80? N SN 4360 0850 Wind Turbine 80? N SN 4440 1000 Wind Turbine 130? N SN 4570 1000 Wind Turbine 120? N SN 4550 1500 Mast 120? N SN 4660 1760 Mast 300? N SN 5050 1920 Mast 90? N SN 6680 2820 Mast 140? N SN 7505 2835 Mast 80? N SN 7490 3460 Mast 100? N SN 7580 3520 Mast 120? N SN 8020 3980 Mast 100? N SN 8130 3480 Mast 80? N SN 8250 3500 Mast 80? N SN 8320 4380 Mast 100? N SN 9800 2900 Mast 80? N		
asor\Lossiemouth - RAFXXV(R) Sqn\Tornado\16\4959	Hazard/Observation	06/05/16	Uncharted windmill at Culvie Hill 57 34.900N 002 42.300W	During the LL EO Phase of a Night sortie, whilst flying at 500ft, lone windmill was observed atop a hill at Culvie Hill 57 34.900N 002 42.300W. The windmill appeared to be approximately 300ft tall, and did not appear to be lit.	D - Negligible	D - Negligible
asor\Wattisham - AHFWAT - AHF\Apache\16\5500	Hazard/Observation	18/05/16	Unmarked obstructions found whilst flying	Whilst conducting a LL sortie, 3 x unmarked obstructions were identified. 1) IVO TM 365 641 2) IVO TM 168 528 3) IVO TM 392 665 Grids are approximate as they were stored from aircraft systems when near the masts, not directly overhead. Unfortunately detail of what these obstruction heights \ natures were not recorded at the time. One of these, (and I believe it was number 1, but can't be 100% sure) was a collection of 4 x whip antennae (very difficult to see), co-located with a number of thicker antennae IVO a farm complex. The other two were 80 - 100' wind turbines.	B - Medium	B - Medium
asor\Middle Wallop\670	Hazard/Observation	25/05/16	Uncharted Obstructions	Wires recce prior to Ex Cobra strike in LFA 2. Word Doc attached. SX 575974 120? MAST SX	C - Low	C - Low

Sqn\Squirrel\16\8245				<p>585967 160? MAST RE-ADDED SX 554044 80? MONUMENT SX 548048 60? AND 100? MASTS SX 412035 60? MAST SX 407028 DELETE 230? LIT MAST SX 455975 2 X 60? MASTS SX 460976 150? SHOULD READ 250? WIND TURBINE SS 23960714 SUSPENDED DOMESTICS SS 38652232 SUSPENDED DOUBLE POLE SS 495231 200? PYLONS SS 498235 160? PYLONS SS 486183 ADD MULTIPLE MAST 50? UNLIT SS 521253 WIND TURBINE PEN HILL QUARRY GRID INCORRECT ACTUAL LOCATION SS 277094 SX 036649-043653 SUSPENDED WIRES SX 045668-051679 SUSPENDED WIRES SX 024672-023678 SUSPENDED WIRES SX 992706 WIND TURBINE 200? SX 995680 WIND TURBINE 120? SX 091681 150? MAST SX 065635 50? MAST SX 021710-021714 SUSPENDED WIRES SX 018718-018722 SUSPENDED WIRES SX 012720 50? MAST SX 033733 150? MAST SX 094728 140? MAST SX 085743 100? MAST SX 055799 100? MULTIPLE MASTS SX 065798 220? WIND TURBINE SX 082798 220? MAST SX 088792 150? WIND TURBINE SX 065815 250? WIND TURBINE SX 064824 150? WIND TURBINE SY 068832 150? WIND TURBINE SY 084626-091624 SUSPENDED WIRES SX 097624-103622 SUSOENDED WIRES SY 162882 100' MAST SX 172643 150' MAST SX 182653 60' MAST SX 164874 150' WIND TURBINE SX 173878 100' WIND TURBINE SX 181838 120' WIND TURBINE SX 187821 120' WIND TURBINE SX 192832 120' WIND TURBINE SX 233851 200' WIND TURBINE SX 243848 200' WIND TURBINE SX 223830 100' WIND TURBINE SX 227830 100' WIND TURBINE SX 227801 80' MULTIPLE MASTS SX 250807 300' WIND TURBINE SX 263799 150' WIND TURBINE SX 275797 150' WIND TURBINE SX 279827 250' WIND TURBINE</p>		
asor\Lossiemouth - RAFV(R) Sqn\Tornado\16\6138	Hazard/Observation	07/06/16	Unmarked Obstruction LFA 14	Whilst flying at low level within LFA 14 the crew noted a single mast in the vicinity of 58 01.050N 004 46.124W. The mast did not appear on the LFCD or trigger the aircraft's obstruction warning	C - Low	C - Low

				system.		
asor\Lossiemouth - RAF\XV(R) Sqn\Tornado\16\6645	Hazard/Observation	20/06/16	Not enough information on NOTAM	Late Warning Alpha (LWA) was promulgated at 0646z giving warning of Glider Activity (that does not carry an SSR transponder) in the block FL100-FL195 within the confines of North Scotland. I have several issues with the Late Warning: 1) Planning my sortie this morning I intend to operate in the block FL100-195 within Class G airspace conducting dynamic manoeuvres as lead of 3 Tornado GR4s, the LWA covers far too much airspace to be useful for deconfliction or as an aide to planning (see attached images). 2) The Tornado GR4 is equipped with TCAS as an aide to deconfliction, however against the non-SSR equipped gliders it has no use. We are instead relying on an Air Traffic Service (with primary radar), and see-and-avoid. With the number of false targets generated by primary contacts to ATC due to windfarms, and the limitations of see-and-avoid against a white glider on a white background, neither method is 100% guaranteed to maintain safe-separation. 3) There are no contact details on the late warning to find out more details to aide deconfliction. This is not the first time the gliding community has published a poor NOTAM (giving other aircrew little information by which to avoid them), and whilst the gliders are not talking to ATC nor carry SSR transponders they are placing themselves and others at increased risk of Mid Air Collision.	B - Medium	B - Medium
asor\Odiham - RAF\ODI - 18 Sqn\Chinook\16\7148	Hazard/Observation	22/06/16	Unmarked wind turbine	An unmarked wind turbine estimated at 200ft was observed by the crew at SN 18401940. N51 50 61 W004 38 26.	B - Medium	D - Negligible
asor\Lossiemouth - RAF\ATC - LOS\16\7059	Hazard/Observation	28/06/16	Level bust	I was screening a U/T in the Departures position at RAF Lossiemouth when Virus 1 Flt climbed out; the formation consisted of Virus 1, 2 and 3 which were all T2 Hawks. They departed on a SID 23S climbing to FL50 as warned out. They were initially identified, given a TS and told to climb FL50 following station procedures, however, they requested a DS which was then given. Both wind farms were called and they were told to "maintain present heading" to avoid. Once clear they were	C - Low	C - Low

				then given own navigation to their destination, whilst the U/T attempted to arrange a handover to Swan Mil, this point it was noticed that Virus 1 Ft had climbed through approximately FL60 (according to their Mode C) and were still climbing. I then proceeded to transmit "Virus 1 Ft confirm you were given clearance to climb to FL50". To which they apologised and reported "Passing FL60 descending FL50".		
asor\Brize Norton - RAF\24 Sqn\Hercules\16\7747	Hazard/Observation	14/07/16	Unmarked Vertical Obstructions	During LLXC flight at 350' MSD in West Wales, unmarked + unlit vertical obstructions in the form of wind turbines approx 250' tall were observed at the following locations. 1. N5157.81 W00429.50 2. N5153.11 W00432.18 Flight + light conditions were good and crew were able to respond in good time. In poorer conditions the potential flight hazard could have been much greater.	B - Medium	B - Medium
asor\Odiham - RAF\ODI - 18 Sqn\Chinook\16\8879	Hazard/Observation	11/08/16	Reporting of unmarked obstructions	Whilst conducting a low level sortie Vortex 525 encountered the following obstructions that were not marked on the mapping: SJ 9748 2437 - 2x Wind Turbines 250' - both looked as though they were in the final stages of construction.	D - Negligible	D - Negligible
asor\Odiham - RAF\ODI - 27 Sqn\Chinook\16\8937	Hazard/Observation	16/08/16	Un-marked Obstruction.	During a Level C Night Sortie a wind turbine approx 200ft AGL was observed at Grid ST 7190 8580. The wind turbine was not on the 250,000 or highlighted in the CALF.	C - Low	C - Low
asor\Shawbury - RAF\660 Sqn AAC\Squirrel\16\9710	Hazard/Observation	26/08/16	Wind Turbine unmarked on Maps	Whilst conducting a low level navex in the Eastern part of LFA 9 we observed a wind turbine, up to 80ft, at grid reference SJ 770 370, NE of the town of Ashley. This wind turbine was not shown on either the 1:250000 map or the local 1:50000 map, neither was it included in the latest CALF or CHAD documents.	D - Negligible	D - Negligible
asor\Lossiemouth - RAF\XV(R) Sqn\Tomado\16\9266	Hazard/Observation	26/08/16	Unmarked Obstruction	Whilst flying in LFA14(T) a small whip aerial was noticed at position N 58 05.167 W004 23.935. The aerial is approximately 200ft high and appeared to be unlit.	C - Low	C - Low
asor\1 Regt AAC\661 Sqn\Wildcat\16\9537	Hazard/Observation	05/09/16	Obstruction	While out conducted a routine low level transit, we spotted a mast that wasn't marked on our maps.	C - Low	C - Low

				Grid of mast is: ST 3520, 0654. Height: 120'		
asor\Lossiemouth - RAF XV(R) Sqn\Tornado\16\9607	Hazard/Observation	06/09/16	Unmarked obstruction LFA14	Whilst low flying in LFA 14 a mast was spotted at N58 14.203 W004 30.860. It appeared to be the type usually associated with wind farms. It was approximately 200ft tall and unlit.	C - Low	C - Low
asor\Middle Wallop\670 Sqn\Squirrel\16\9989	Hazard/Observation	13/09/16	Recorded Hazards	Prior to commencing Low Level instructional sorties in the vicinity of Dartmoor and Bodmin Moor, a number of recce sorties were completed in order to highlight any further hazards not already marked on the squadron personnel's maps. The following hazards were recorded: SS 550 048 - Multiple Masts 80ft AGL SS 542 050 - Mast 50ft AGL SX 606 955 - Mast 50ft AGL SX 626 959 - Mast 50ft AGL SX 644 953 - Multiple Masts 80ft AGL SX 650 975 - Wind Turbine 150ft AGL SS 614 092 - Wind Turbine 150ft AGL SS 626 108 - 2 x Wind Turbine 150ft AGL SX 315 795 - Wind Turbine 253ft AGL SX 318 834 - Wind Turbine 330ft AGL SX 321 836 Mast 160ft AGL SX 340 829 - Wind Turbine 253ft AGL SX 352 828 - Wind Turbine 253ft AGL SX 354 807 - 2 x Masts 70ft AGL SX 382 855 - Wind Turbine 253ft AGL SX 342 830-SX 348 828 - Suspended Cable SS 515 006 - 2 x Static Kites 100ft AGL SX 477 957 - Wind Turbine 80ft AGL SX 384 982 - Wind Turbine 150ft AGL SX 466 851 - Mast 120ft AGL SX 502 850 - Mast 120ft AGL SX 089 729 - Mast 150ft AGL SX 088 741-SX 094 739 - Suspended Cable SX 084 748-SX 088 751 - Suspended Cable SX 043 796 - Wind Turbine (unknown height) SX 049 789 - Wind Turbine (unknown height) SX 020 734-SX 025 732 - Suspended Cable.	C - Low	C - Low
asor\1 Regt AAC\661 Sqn\Wildcat\16\9998	Hazard/Observation	16/09/16	Unmarked obstruction	During a low level sortie conducted to 110' agl 3 unmarked obstructions were observed; 140' obstruction at SS74570120, 300' at SS77190952, 130' at ZZ82041514.	C - Low	C - Low