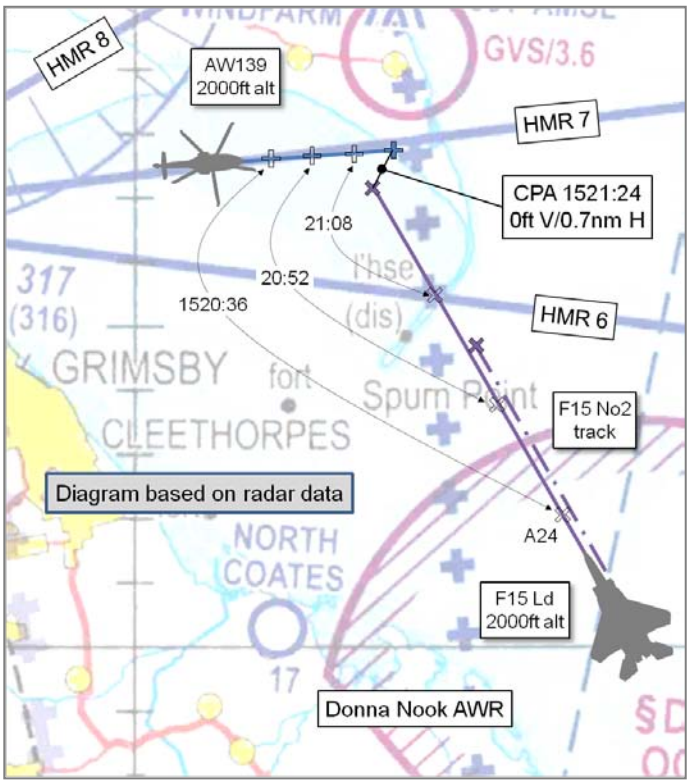
AIRPROX REPORT No 2013036

Date/Time:	14 May 2013 1521Z	
Position:	5337N 00006E (2nm N Spurn Point)	
Airspace:	Lon FIR	(*Class:* G)
	Reporting Ac	*Reported Ac*
Type:	AW139	2 x F15
Operator:	CAT	Foreign Mil
Alt/FL:	2000ft QNH (999hPa)	2000ft (QNH NK)
Weather:	VMC CLOC	VMC CLBC
Visibility:	10km	8km
Reported Separation:	0ft V/800m H	NK
Recorded Separation:	0ft V/0·7nm (1300m) H	



PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

THE AW139 PILOT reports flying en-route to Amethyst rig, IFR and in receipt of a TS from Humberside Radar [119·125MHz] squawking an assigned code with Modes S and C; TCAS 1 was fitted. The visibility was 10km in VMC and the ac was coloured red with navigation, anti-collision and landing lights all switched on. Heading 087° at 143kt and altitude 2000ft [QNH 999hPa] they spotted 2 fast-jets in their 2 o'clock at a range of about 5nm, flying L to R at the same level, well to the N of Donna Nook range. The PF alerted Humberside Radar as a NOTAM had not been issued to reflect this activity. The fast-jets turned and tracked back towards their helicopter with a steady bearing and height and the PF updated Humberside Radar on the change in vector. The controller took no action whereupon the leading fast-jet banked L and passed approximately 800m down their RHS at the same level; he identified the type as an F15. The second F15 stayed further S and was not a factor. No avoiding action was taken by him as the F15 had turned sharply and with very little time to react the PF believed any avoiding action (e.g. a turn away) would probably have complicated the issue and they would also have lost sight of the fast-jet. On transferring to Anglia Radar the controller queried how close the fast-jet had approached and the PF estimated 0·5nm based on his visual sighting and the TCAS contact. He assessed the risk as Medium.

THE F15 PILOT reports operating in the Donna Nook AWR, leading a pair of ac, VFR and in receipt of a TS from Donna Nook Range Control, he thought, squawking an assigned code with Modes S and C; an ACAS was not fitted. The visibility was 8km in VMC and the ac was camouflaged dark grey with position lights switched on. Heading 020° at 400kt and 2000ft [QNH NK], they observed what they believed to be a Eurocopter AS365, co-altitude in the R 2 o'clock position at a range of 3nm. The traffic was discussed on an intra-formation frequency and the 2 ac were turned L on to a heading of 350° in order to effect deconfliction from the helicopter, which appeared to continue offshore on the HMR6 route. He assessed the risk as Low.

THE HUMBERSIDE RAD reports performing OJTI duties with a trainee controller who was approaching validation date. The trainee was working close to capacity with IFR inbounds, VFR out-bounds and VFR transit traffic as well as several landline calls to answer and make within the 10min period when the Airprox took place. The AW139 pilot was routeing outbound to the Amethyst rig at altitude 2000ft and when about 10nm E of Humberside the crew reported visual with 2 fast-jets operating at D307 Donna Nook; the jets were manoeuvring N to S up to 5nm outside of D307's

published area to the N of Spurn Head. The trainee was busy vectoring a FK70 in congested airspace when he, the mentor, observed the fast-jets at Donna Nook approaching the AW139 again. He prompted the trainee to pass TI but by the time he had done this the 1st jet, indicating altitude 2000ft, had already passed the helicopter and the second jet had NMC. The AW139 crew informed them that the 2 jets were passing on their RHS at a similar altitude. The crew was not asked nor did they inform them that they were filing an Airprox. Later a telephone call was received from the AW139 crew stating an Airprox was being filed against the fast-jets which were known to be F15s. Humberside METAR was recorded as: EGNJ 1520Z 17011KT 9999 FEW035 BKN047 12/04 Q0999

[UKAB Note (1): A transcription of the Humberside RAD RTF is reproduced below:

From	To	Speech Transcription	Time
AW139	RAD	Humberside radar good afternoon [AW139 C/S] with you passing er two thousand er levelling two thousand feet nine nine nine	15:14:00
RAD	AW139	[AW139 C/S] is identified traffic service the Humber niner niner five hectopascals	15:14:10
AW139	RAD	traffic service niner niner five the Humber [AW139 C/S] thanks	
		No relevant transmissions	
AW139	RAD	Humberside radar [AW139 C/S] er for your information there's fast jet er traffic er at our two o'clock just passing left to right low level	15:19:30
RAD	AW139	[AW139 C/S] roger busy on the landline taking a handover there the er fast jet traffic er is manoeuvring on the er range no height at the moment has er historically been no further north than spurn point	15:19:50
AW139	RAD	[AW139 C/S]	15:20:00
		No relevant transmissions	
RAD	AW139	[AW139 C/S] further range traff- er south of you by two miles northbound no alt no height information	15:21:25
AW139	RAD	er this is [AW139 C/S] yeah just had two fast jets er passing down our right hand side probably closest about er between a quarter and half a mile at the same er height as us	15:21:35
RAD	AW139	[AW139 C/S] roger just keep you for a couple of miles offshore until you're clear of those er tracks	15:21:45
AW139	RAD	okay they're just astern us now	
RAD	AW139	roger	

[UKAB Note(2): The radar recording shows the F15 pair took up a range pattern orientated about 160°/340° from 1509:30, that extended 'downwind' as far as the CPA. The Airprox occurred on the 5th repetition of this pattern]

ATSI reports the Airprox occurred at 1521:22 UTC, 16.6nm to the NE of Humberside A/D, within Class G uncontrolled airspace, between an Agusta AW139 (AW139) and a Boeing F15E Strike Eagle (F15), the lead ac in a formation of two F15s.

Background

The AW139 pilot was operating under IFR from Humberside to the Amethyst C1D platform and was in receipt of a TS from Humberside RAD [119.125MHz]. The F15 pilot was one of two operating under VFR in loose formation in the Donna Nook AWR (D307), neither of whom was in receipt of an ATS. The lead formation ac involved in the Airprox was squawking 6010 (London Military) and the following ac was squawking 7002 (Danger Area). Radar recording showed the formation enter D307 at 1455 and manoeuvre on the W side of D307 until 1509, when the formation extended a race track pattern to the N between D307 and Spurn Point. Humberside RAD was manned by an experienced controller acting as OJTI to a trainee approaching validation date. The pair had taken over the position approximately 6min prior to the Airprox. Traffic levels had been low but increased rapidly to medium/heavy just prior to the Airprox.

CAA ATSI had access to Humberside RTF, area radar recordings, the Humberside RAD and ATSU written reports, together with the written reports from both pilots. The Humberside weather was recorded as:
METAR EGNJ 141520Z 17011KT 9999 FEW035 BKN047 12/04 Q0999=

Factual History

At 1512:44, the AW139 pilot, squawking 7422, departed from Humberside A/D. The two F15s were tracking N in loose formation from D307 towards Spurn Point and were observed commencing a L turn to track S towards D307.

At 1514:01, the AW139 pilot contacted Humberside RAD, *"Humberside Radar good afternoon* [AW139 C/S] *with you passing er two thousand er levelling two thousand feet nine nine nine"*. The controller replied, "[AW139 C/S] *is identified Traffic Service the Humber niner niner five in hectopascals"*. This was acknowledged by the AW139 pilot. The F15 formation were now operating within the Donna Nook AWR, 16.5nm SE of the AW139.

At 1514:58, the F15 formation tracked N from D307 towards Spurn Point and then, at 1515:55, the formation turned S at FL011. The AW139 pilot was tracking NE'ly at FL024 (see Figure 1). At this point the OJTI and trainee took over from the off-going controller.

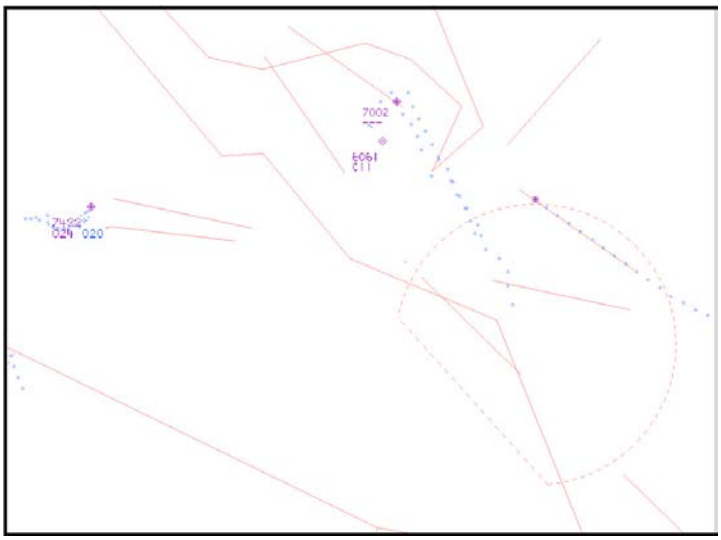


Figure 1: MRT at 1515:55

The F15 formation then tracked S and at 1517:27 were again within D307, turning L. At 1517:56, the AW139 pilot turned onto an E'ly track towards Spurn Point; the F15 formation was 10.9nm SE, tracking N to leave D307.
At 1518:37, the Humberside RAD workload increased substantially with an increase in RT calls, a radar handover and telephone coordination. At the same time the F15 formation commenced a L turn, NW of Spurn Point, 5.9nm ahead of the AW139 (see Figure 2).

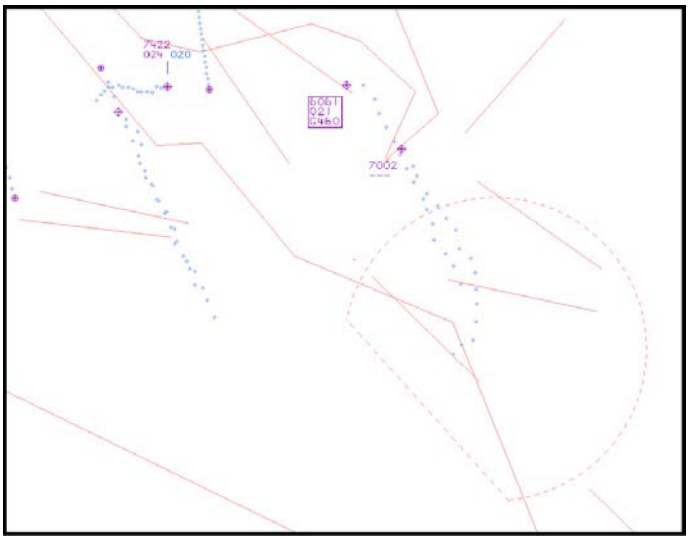


Figure 2: MRT at 1518:37

The AW139 pilot's written report indicated that two fast jets were sighted as they reached his 2 o'clock [S bound] and at 1519:35, the AW139 pilot advised, *"Humberside radar* [AW139 C/S] *er for your information there's fast jet traffic er at our two o'clock just passing left to right low level"*. The controller responded, *"*[AW139 C/S] *busy on the landline taking a handover there the er fast jet traffic er is manoeuvring on the er range no height at the moment has er historically been no further north than Spurn Point"*. This was acknowledged by the AW139 pilot. The formation was tracking S, away from the AW139, with the second ac, squawking 7002, at a range of 4.7nm, in trail

At 1520:54, due to Waddington traffic climbing to FL150, the Humberside RAD was involved in a tactical plan to keep an airways inbound within CAS (base FL155) with a revised radar pattern to the W of Humberside. Meanwhile the F15 formation turned N bound again. The groundspeed of the lead F15 ac was 453kt (see Figure 3).

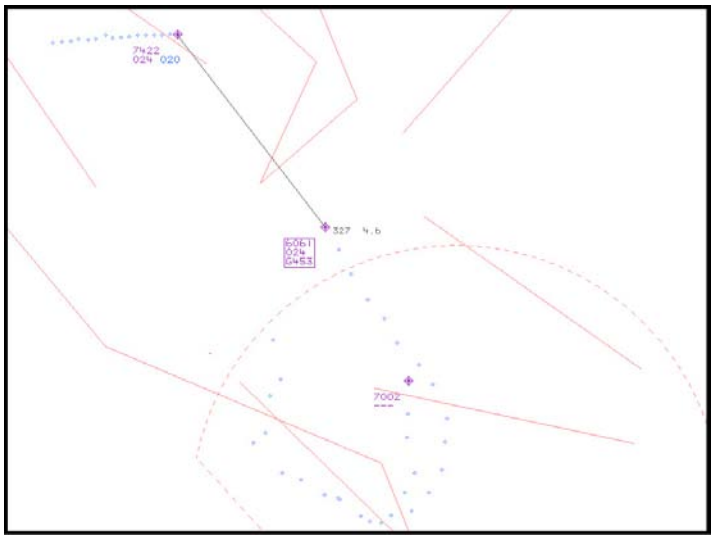


Figure 3: MRT at 1520:54

At this point the RAD was involved with other tasks, but as soon as the potential conflict was recognised the trainee, prompted by the OJTI, passed late TI. At 1521:25, the RAD reported, *"*[AW139 C/S] *further range traff- er south of you by two miles northbound no alt- no height information*" (see Figure 4).

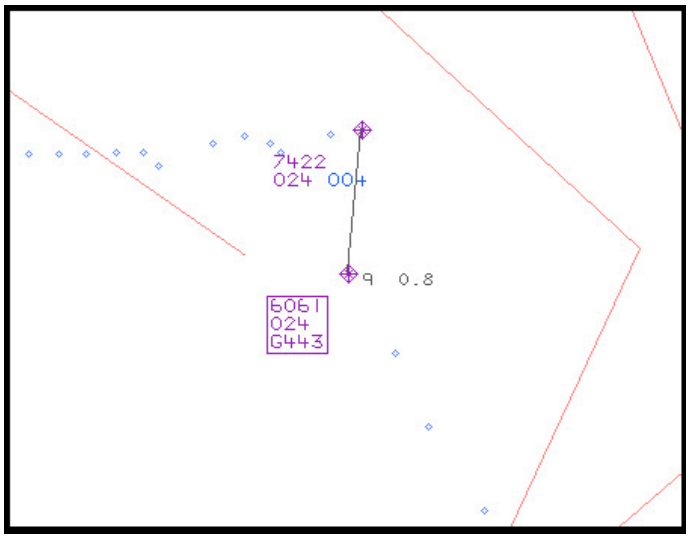


Figure 4: MRT at 1521:25

At 1521:35, the AW139 pilot replied, *"Er this is* [AW139 C/S] *yeah just had two fast jets er passing down our right hand side probably closest about er between a quarter and a half a mile at the same er height as us*". This was acknowledged, "[AW139 C/S] *roger just keep you a couple of miles offshore until you're clear of those er tracks*". The AW139 pilot reported, *"Okay they're just astern us now"*. The lead formation F15 passed 0.6nm SW of the AW139 (CPA) with both ac indicating FL024.

At 1522:32, the AW139 pilot's ATS was terminated and he was transferred to Anglia Radar [125.275MHz]. The AW139 pilot subsequently reported the Airprox by telephone to Humberside ATC.

The F15 pilot's written report indicated that he had sighted the AW139 helicopter in his 2 o'clock at a range of 3nm at a similar level and that this resulted in the formation turning left 30° to de-conflict with the helicopter.

The ATSU investigation report indicated that workload had increased dramatically prior to the Airprox and in such circumstances the unit endeavours to ensure that a controller or ATCA is available to assist. The OJTI was confident that on his own he would have dealt with the workload, but at the time had prompted the trainee to consider and recognise the increased workload with a view to taking appropriate action to request assistance if he considered it appropriate.

Analysis

The AW139 pilot was in receipt of a TS from Humberside RAD. The controller believed that the F15 formation was operating as far N as Spurn Point but this information was only passed after the AW139 pilot had sighted the ac tracking S, "…*is manoeuvring on the er range no height at the moment has er historically been no further north than Spurn Point".* More timely information regarding the F15 range pattern and their relative speed would have aided the AW139 pilot's SA and may have prompted him to change routeing or request a DS. CAP 774, UK Flight Information Services, Chapter 3, page 1, paragraph 1 states:

> 'A Traffic Service is a surveillance based ATS, where in addition to the provisions of a Basic Service, the controller provides specific surveillance-derived traffic information to assist the pilot in avoiding other traffic…however, the controller is not required to achieve deconfliction minima, and the avoidance of other traffic is ultimately the pilot's responsibility.'
>
> 'The controller shall pass traffic information on relevant traffic, and shall update the traffic information if it continues to constitute a definite hazard, or if requested by the pilot. However, high controller workload and RTF loading may reduce the ability of the controller to pass traffic information, and the timeliness of such information.'

The RAD's workload increased rapidly just prior to the incident with an increased level of coordination and RTF. It is likely that the RAD's priority and attention was focussed on these other tasks when the F15 formation resumed their track N from D307 and into potential conflict with the AW139. Given the relative ground speed of the F15 formation (453kts), the controller was late in recognising this conflict and late TI was passed to the AW139 pilot when the formation was 2nm S of him. However by this time both ac were visual with each other and the F15 had turned L to de-conflict. CAP 774 UK Flight Information Services, Chapter 1, page 1, paragraph 2 states:

> 'Within Class F and G airspace, regardless of the service being provided, pilots are ultimately responsible for collision avoidance and terrain clearance, and they should consider service provision to be constrained by the unpredictable nature of this environment.'

Conclusions

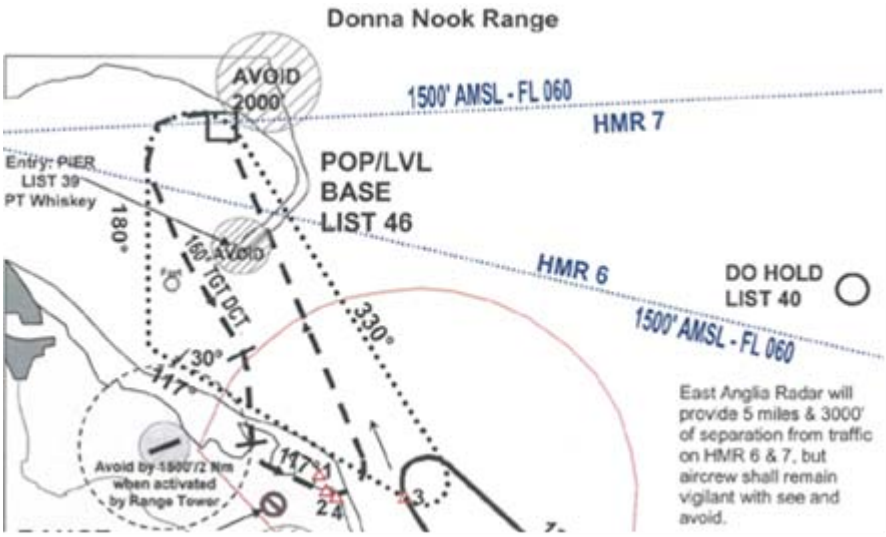
The Airprox occurred when the AW139 and lead F15 came into proximity such that the AW139 pilot was concerned that the safety of his ac had been compromised. The AW139 pilot was in receipt of a TS from Humberside RAD and, due to the increased workload, the RAD was not immediately aware of the conflict. This resulted in the late passing of TI and warning to the AW139 pilot. The pilots of both ac sighted each other and the F15 turned L to de-conflict with the AW139.

BM SAFETY POLIY AND ASSURANCE reports this Airprox occurred at approx 1521 between an AW139 helicopter and a pair of F15 ac. Although the lead F15 was squawking an SSR 3A code assigned to LATCC(Mil), analysis of RT recordings determined that the F15 formation went 'en-route' to Donna Nook AWR at 1451. Further investigation determined that the F15 formation re-contacted LATCC(Mil) on departure from Donna Nook AWR at 1534; no mention was made to LATCC(Mil) of an Airprox.

Investigation at Donna Nook AWR determined that the F15 formation contacted AWR control staff at 1452 and left the frequency at 1530. The AWR control staff did not receive any calls from another ATS provider warning them of the proximity of other ac, neither did the F15 formation advise them of an Airprox. Consequently, the AWR control staff was unable to provide a warning to the F15s and was unaware of this incident until advised by BM SPA.

In conclusion, there are no military ATM issues resulting from this Airprox.

USAFE-UK/A3 comments that the F-15 pair was carrying out a standard procedure (Pop Pattern) on Donna Nook AWR during which aircraft fly N, at 2000ft amsl, as far as HMR 7 before turning L to a S'ly heading. In relation to HMR 6 and 7, the standard range pattern plate for the procedure makes the point that 'aircrew shall remain vigilant with see and avoid', an instruction with which the F-15 crews complied.



PART B: SUMMARY OF THE BOARD'S DISCUSSIONS

Information available included reports from the pilots of both ac, transcripts of the relevant RT frequencies, radar photographs/video recordings, reports from the air traffic controllers involved and reports from the appropriate ATC and operating authorities.

The Board first considered the aircrew's actions. The AW139 pilot was operating under VFR in receipt of a TS, undertaking a routine task on a route with which he was familiar. He saw the F15s at a reported distance of 5nm and was able to follow their flight path back towards him. The Board considered his passing of TI to the controller to be reasonable but emphasised that he and the F15 pilots had equal responsibility for collision avoidance. The F15 pilots had right of way, saw the AW139 at a reported distance of 3nm and turned L to pass down the RHS, continuing their range profile. That said, notwithstanding that this is Class G airspace, in the absence of reassurance that the F15s had seen them, either by a physical signal (eg wing waggle) or via the RT, it was understandable that the AW139 crew were concerned by the approach and passage of high performance aircraft relatively close to their comparatively unmanoeuverable helicopter.

Turning to ATC aspects of the incident, Board Members opined that the trainee and OJTI had not fully assimilated the F15's ground tracks prior to the Airprox, probably due to their task load. They had only taken over the control position about 5min before the Airprox; however, this still afforded them the opportunity to observe at least 2 iterations of the F15's 'pop patterns', all of which extended to the N of Spurn Point. The trainee passed TI twice, the first time based on historical information, which was inaccurate and was not corrected by the OJTI, and the second at the OJTI's prompting which was also inaccurate and occurred at the same time as the Airprox. Notwithstanding these observations, the USAFE Advisor stated that 3rd AF enjoyed an excellent relationship with Humberside who normally provided an excellent service whilst their ac were in the range.

Members and Advisors noted that military ac will routinely fly outside the lateral limits of an AWR danger area in order to achieve delivery profiles and that the danger area is not segregated airspace but is designed solely to protect other airspace users from weapons effects. Members also expressed disappointment that coordination had not been agreed between Humberside and Donna Nook AWR. Both agencies have managed the flight profiles that resulted in this Airprox for a number of years and it was opined that standing coordination could usefully be established between them.

Finally, the Board considered that effective and timely action had been taken to prevent the ac colliding but the overall effectiveness of the available safety barriers had been limited.

PART C: ASSESSMENT OF CAUSE AND RISK

Cause:	The AW139 crew was concerned by the proximity of the F15 leader.
Degree of Risk:	C.
ERC Score:	21.