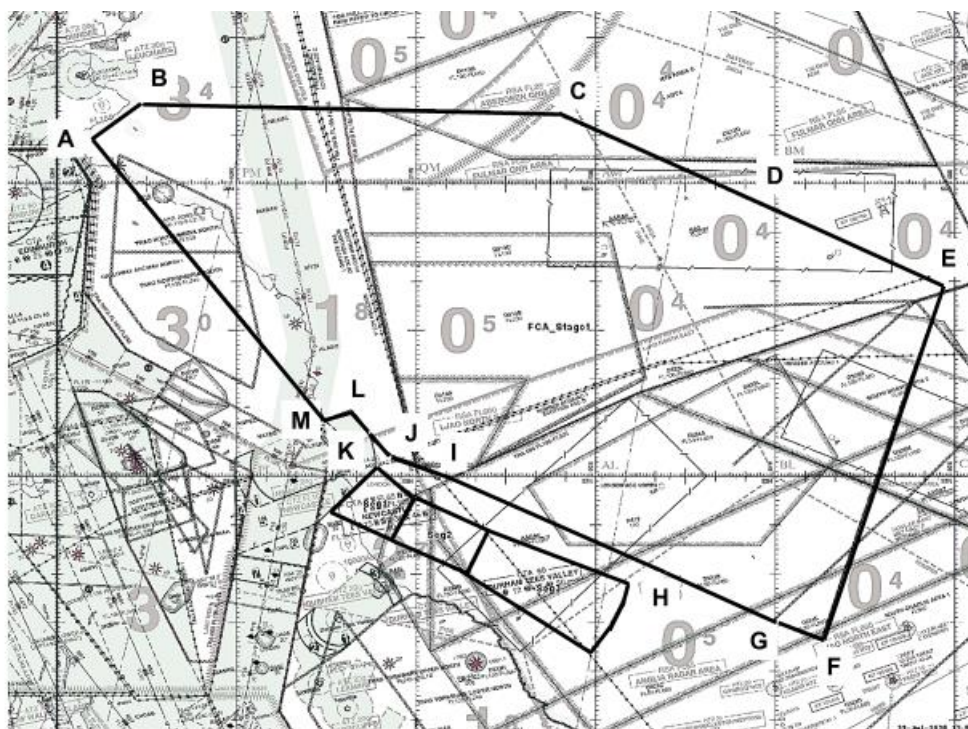


## FCA Trial Stage 1 Physical Dimensions

The FCA Trial Stage 1 (Oct-Nov 20) will have the same lateral dimensions as the previous exercise airspace solution (the CACA). Although not ideal for meeting MoD requirements, this was a stipulation from NATS for adaptation reasons due to time constraints; namely updating controller radar display overlays and the availability of routes to go around the Trial Airspace. However the Stage 1 airspace will extend from FL85 – FL660 and will have Temporary Danger Airspace (TDA) status. This will provide military airspace users with segregated airspace to meet the Core Military Requirements.

The dimensions of the Stage 1 airspace is at Fig. 1 and the coordinates at Fig. 2 below. Due to short timescales and the fact this is historical CACA data being re-used, the Stage 1 airspace lateral dimensions are not currently ADQ-compliant. In mitigation, both NATS and MoD are aware, systems currently reflect this data and the airspace dimensions have been in use for the last 3 years.



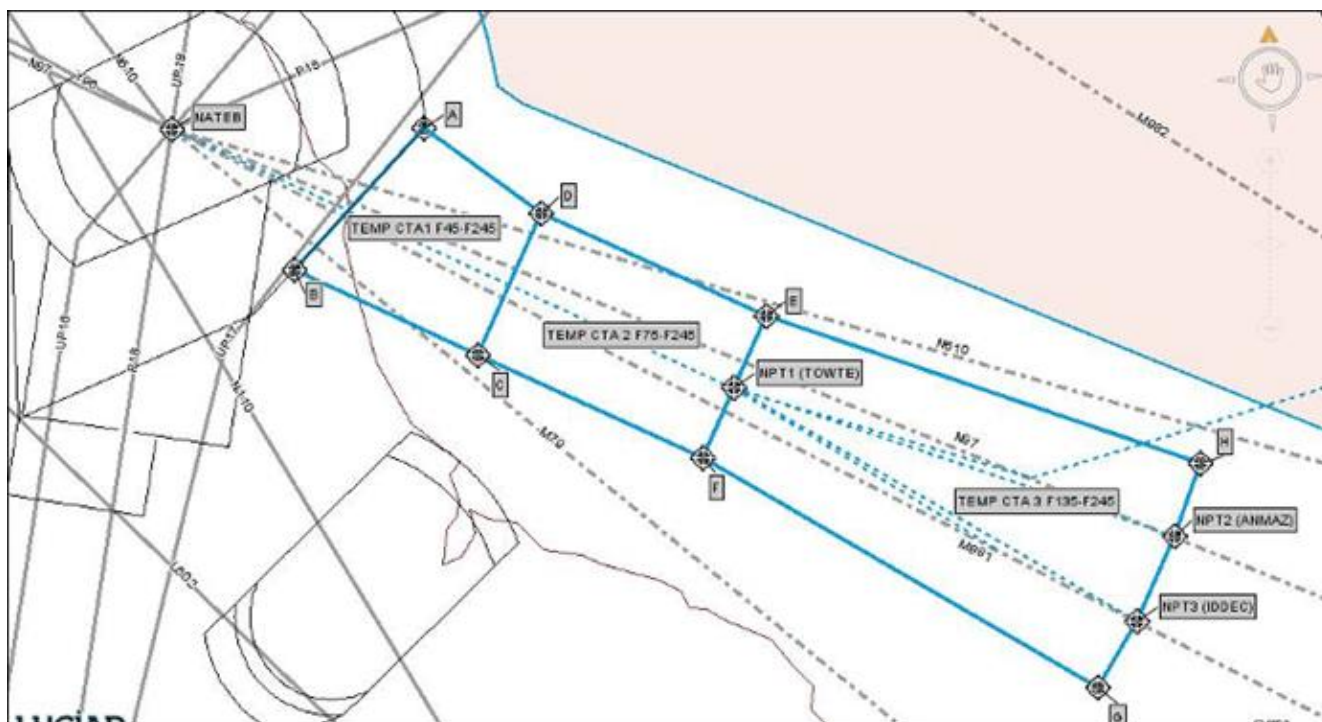
**Fig. 1 FCA Stage 1 Airspace Dimensions Graphic**

A	5609.380N 00248.410W
B	5616.250N 00232.380W
C	5614.490N 00013.120W
D	5556.310N 00053.090E
E	5539.140N 00156.150E
F	5426.360N 00115.340E
G	5430.030N 00059.540E
H	5442.370N 00014.280E
I	5500.350N 00050.500W
J	5504.340N 00108.140W

K	5507.160N 00114.240W
L	5513.320N 00121.170W
M	5511.150N 00130.480W

**Fig. 2 FCA Stage 1 Airspace Dimensions Table**

As part of the activation of the FCA (Trial Stages 1 and 2 and the permanent solution) NATS have proposed and designed a temporary CTA (labelled the Flamborough CTA) to provide assured access to Newcastle via a controlled airspace structure during the FCA activation. This structure is shown at Fig. 3 below and its corresponding data is at Fig. 4. This data is ADQ compliant.



**Fig. 3 Flamborough CTA Dimensions Graphic**

Segment	Coordinates	Vertical	Classification	Operating Authority	Design Criteria
1	A-550148.6200N 00113 35.6600W  B-545258.3239N 0012842.9124W  C-544707.3490N 0010829.2019W  D-545604.6422N 0010050.1091W	FL45 to FL245	Class D Below FL195	FL45 to FL145  NEW ATC	A CTA established in the form of a corridor, with a nominal width of 10nm bisected by a line of bearing 116.29/243.71° from NATEB; extending laterally to provide abutting connectivity with Newcastle CTA 3, to a distance of 24nm from NATEB.  Descent profile calculation based on 2.5° profile i.e. 250ft per NM. Entry Level from CTA 2 expected at FL80; Exit level to NEW CTA 3 expected at FL50, at a distance of 12nm from NATEB.  Climb profile based on a range between 5% and 8% gradients i.e 304ft to 486ft per NM.
			Above FL195 Class C	Above FL145  Prestwick ACC	

2	C-544707.3490N 0010829.2019W  D-545604.6422N 0010050.1091W  E-544849.0192N 0003608.6242W  NPT1 (TOWTE)- 544421.5167N 0004001.7187W  F-543953.2490N 0004351.8090W	FL75 to FL245	Below FL195 Class D	FL75 to FL145  NEW ATC	<p>A CTA established in the form of a corridor, with a width of 10nm bisected by a line of bearing 116.29/243.71° from NATEB. Abutting CTA 1 and extending to 40nm from NATEB.</p> <p>Descent profile calculation based on 3.75° profile i.e. 375ft per NM. Entry Level from CTA 3 expected at FL140; Exit level to CTA 1 expected at FL80 at a distance of 24nm from NATEB.</p> <p>Climb profile based on a range between 5% and 8% gradients i.e 304ft to 486ft per NM.</p>
			Above FL195 Class C	Above FL145  Prestwick ACC	
3	E-544849.0192N 0003608.6242W  NPT1 (TOWTE)- 544421.5167N 0004001.7187W  F-543953.2490N 0004351.8090W  G- 542352.8238N 0000116.4523W  NPT3 (IDDEC)- 542803.5881N 0000324.3851E  NPT2 (ANMAZ)- 543321.6097N 0000810.6188E  H-543759.6154N 0001122.3596E	FL135 to FL245	Below FL195 Class D	Prestwick ACC	<p>A CTA established in the form of a corridor, with a width of 10nm bisected by a line of bearing 116.29/243.71° from NATEB, extended laterally to produce 5nm containment between an intersecting point established at 40nm from NATEB (max radar range of New ATC) NPT 1 and points established at 70nm from NATEB on UARs N97 (NPT 2) and M981 (NPT 3)</p> <p>Descent profile calculation based on 4° profile i.e. 400ft per NM. Expected level at NPT3 FL260, expected exit level at NPT1 FL140.</p> <p>Climb profile based on a range between 5% and 8% gradients i.e 304ft to 486ft per NM.</p>

**Fig. 4 Flamborough CTA Airspace Dimensions Table**

### Times and Dates of FCA Trial Stage 1 Activation

The Stage 1 airspace will be activated to support Ex CRIMSON WARRIOR as shown below. Any changes required for operational reasons will be notified and coordinated by the AMC no later than D-1. All times Zulu (noting that the UK clocks change on 25 Oct 20)

19 Oct 20	0900-1200
21 Oct 20	0900-1200
26 Oct 20	1000-1300
28 Oct 20	1000-1300
2 Nov 20	1000-1300
4 Nov 20	1000-1300



## Airspace Status

Lower Limit: FL85

Upper Limit: FL660

AMC - Manageable.

Activity: High Energy Manoeuvres / Ordnance, Munitions and Explosives (OME) / Electrical / Optical Hazards / Unmanned Aircraft System (VLOS/BVLOS).

Service: DAAIS: Scottish Information on 134.775 MHz and London Information on 125.475 MHz

Contact: Pre-flight information: CRC Boulmer. Tel: 01655-572312. Booking: Military Airspace Booking Coordination Cell, Tel: 01489-612495.

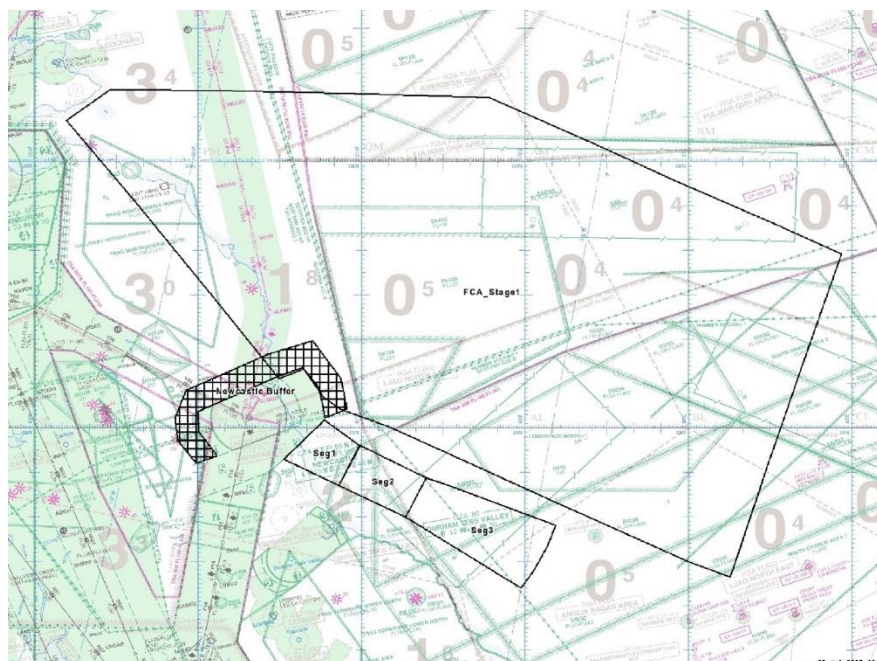
Danger Area Authority: HQ Air.

Hours: Activated by NOTAM. Not available Sat/Sun/PH.

The Danger Area Authority for this area will be HQ AIR and management of the unusual air activity in the airspace will be in accordance with standard, existing military procedures for conducting and ensuring containment of such activities within special use airspace.

## SARG Policy Statement - Special Use Airspace - Safety Buffer Policy for Airspace Design Purposes

The initial proposed TDA design for Stage 1 did not fully comply with the SARG Policy Statement - Special Use Airspace - Safety Buffer Policy for Airspace Design Purposes as the lateral dimensions did not conform in the vicinity of the Newcastle CTZ. This will be addressed with the addition of an internal 5nm buffer around the Newcastle CTZ between FL85 and FL125 (as depicted in Fig 5 below) published in the Exercise Airspace Control Order (ACO) and Exercise Airspace Control Plan (ACP). This will ensure that no unusual air activity will take place within the vicinity of the Newcastle CTZ and will be briefed to all exercise participants. This mitigation is only required during Stage 1 trial airspace, Stage 2 trial airspace design will fully comply with this policy statement.



**Fig. 5 Newcastle CTZ Internal MoD Buffer**

NATS will continue to manage their traffic as per previous exercise iterations (under the CACA CONOPs) albeit with improved procedures to tactically manage FPLs and GAT loading, with the use of a liaison officer to manage the re-route of GAT as required. No GAT will route on upper ATS within 10nm of the trial airspace. These management processes, including the liaison officer, will only be required for Stage 1 of the trial.

### **Flamborough CTA**

The Flamborough CTA will address previous issues and concerns, raised by Newcastle, NATS and the MoD experienced with the CACA arrangement to facilitate transit of traffic in and out of Newcastle and will only be activated and available during trial airspace activation.

In Stage 1, the Flamborough CTA will enable protection of traffic that will be tactically routed to the temporary airway by NATS, then vectored by Newcastle inbound – it will not be flight plannable. The same will take place in reverse for outbounds. Only traffic in and out bound from Newcastle are expected to utilise this CTA during Stage 2.

Above FL195, agreed by NATS, both ASACS and RAF(U) Swanwick controllers will be able to provide ATS to aircraft crossing the CAS-T, in accordance with standard airways crossing procedures detailed in the NATS/MoD LoA. Below FL195, we anticipate that RAF(U) Swanwick will be able to provide ATS to aircraft crossing the CAS-T subject to receiving a crossing clearance by Newcastle. This requires confirmation by Newcastle - until such times as this confirmation is received, military controllers at RAF(U) Swanwick will not provide ATS through the Flamborough CTA below FL195.

The requirement for the Flamborough CTA stems from the service provision to GAT transiting Class G airspace in and out of Newcastle. NERL licensing differs between Prestwick and Swanwick, with 55N the boundary line resulting in differences for Newcastle traffic transiting Class G from the North vs. Newcastle traffic transiting Class G from the South. To the North (NATS Prestwick) there is a Civil Low sector and for the duration of the Trial, traffic transiting Class G to/from the north is not expected to be an issue as this traffic can be re-routed via the airways structure.

To the south, there is no Civil Low sector, with RAF(U) Swanwick undertaking service provision in accordance with the Derogated Services agreement between NATS and the MoD. Due to limited capacity at RAF(U) Swanwick (an issue already articulated to ANSPs and the airlines) services may be refused by RAF(U) Swanwick resulting in a surveillance service provision gap. This gap is filled by the introduction of CAS-T, within which the CAA is required to designate a temporary controlling authority. This designation would then allow NATS to operate in conformance with its license; without such a structure NATS would be operating outside of its license. Whilst the option of derogated service provision i.e. SWN(Mil) was considered, NATS felt that the requirement to initiate tactical deviation of aircraft inbound from the Copenhagen FIR to Newcastle and Durham Tees Valley as well as the integration of such traffic with those in and outbound to/from the MTMA, Dublin and Belfast Group airfields as well as European to Oceanic transits, produced a series of complex co-ordination arrangements that were best dealt with by a single service provider. This would also allow manpower at SWN(Mil) to concentrate on their primary task of ensuring safe ingress and egress from the exercise area by military aircraft, which has been a cause of concern following previous CACA activations. It should also be noted that it is highly likely that Derogated Services will be unavailable during the airspace activation, since military service will be prioritised to the military exercise participants ensuring safe management of traffic ingress/egress from the trial airspace. Due to the presence of significantly larger numbers of military aircraft within the area, resulting in the need for an airspace structure to accommodate tactical freedom and deviation from the rules of the air, the presence of a temporary but formally recognised airspace structure offers a degree of safety assurance to passenger carrying commercial aircraft required to operate in close proximity to such activity.

NATS, with input from Newcastle, designed the Flamborough CTA to address these issues. Development of the CTA design was undertaken in 2 stages. The first iteration required a descent profile of 4<sup>0</sup> from FL250 at 60nm from Newcastle, with an expectation of handover to Newcastle at 40nm, at approximately FL200. This design was derived from the base level of the Humber Sector and the maximum operating distance of the Newcastle radar. However following review it was determined that this profile was too steep and would be unflyable. A second design was then undertaken that produced a shallower profile from FL 250 at 70nm with an expectation of transfer to Newcastle at 40nm at approximately FL150. Both designs were provided to Newcastle along with an explanation of the change as well as proposed temporary operating procedures associated with prenotification and the transfer of control. Additionally, climb profiles were taken into consideration with a range known to exist for aircraft operating from Newcastle to ensure containment of such profiles within the advocated CTA. It was however stressed that this CAS-T volume would not be configured in any flight plan systems or aircraft FMS and as such could be purely used by aircraft tactically deviated away from their flight plan route.

NATS has tried to engage with airline customers most affected this proposal; this has proven difficult in the present COVID environment. In respect of forecast traffic levels; this is exceptionally difficult to determine at this stage. However, the use of CAS-T would be solely limited to aircraft tactically deviated and would not be available for flight plan use. In the normal course of events based on a 3hr operating widow this would equate to approximately 3 aircraft; however, given current COVID circumstances it is not possible to provide any certainty of this figure other than to say it is not expected to exceed 3 aircraft during each period of activation.

It is noted that the proposal for the Flamborough CTA addresses the concerns and constraints in the short-term to allow data gathering throughout the trial to validate this proposal, but that further development of this CTA will be required as the trial progresses. It is anticipated that due to the location and dimensions of the Flamborough CTA, there will be minimal impact to other airspace users however MoD will measure the impact and monitor feedback throughout. The trial aims to measure the environmental impact of the Flamborough CTA throughout the trial.

### **Airspace Use for Exercise Activity**

This Trial Airspace will be used for military collective training exercise of up to 50 ac including 4<sup>th</sup>/5<sup>th</sup> generation fighter aircraft executing full tactical manoeuvring and simulated use of long-range weapons systems. Due to the size of this proposed TDA it is anticipated that exercise aircraft may have to flow in/out of the airspace during a mission. (Red Air exercise traffic to the north and west of the area.) ATS service will be provided to aircraft by ASACS or RAF(U) Swanwick when outside the confines of the TDA to safely manage ingress and egress of military exercise traffic, co-ordinating with civil controllers as required. The responsibilities that are detailed in the NATS/MoD LoA which will be adhered to throughout this trial; there will be no deviation to standard procedures required to facilitate this trial.

During Ex CRIMSON WARRIOR, not all of the military activity will take place in the Trial Airspace. There will be activity in D510 (Spadeadam) and D512 (Otterburn), predominantly at low level and entirely avoiding Y96. There will also be low level military traffic in Northumberland. This is all BaU for the MoD and should not be conflated with the use of the Trial Airspace.

In order to support the activation of this TDA we anticipate the following actions will be required:

1. Publication of this TDA in an Aeronautical Information Circular.
2. Notification of activation of the TDA will be promulgated via NOTAM D-1. Confirmation of DAAIS will be confirmed within the activation NOTAM.
3. Flamborough CTA activation will be promulgated via NOTAM D-1.
4. Suppression of EG D323/513/613 during TDA activation. This will be co-ordinated through the Military Airspace Booking and Co-ordination Cell at the UK Airspace Management Cell.

5. Suppression of P18. This will be co-ordinated D-1 via existing protocols in the NATS/MoD P18 LoA.