

Trial Methodology and Objectives - FCA Trial Stages 1 and 2					
Serial	Trial Objectives	Measurement	Issues	Mitigations / Changes to support	Success criteria
1	Airspace design suitable for Military Training	Analyse ability to fully deliver exercise training objectives vs ability to safely manage the mil activity, including ingress/egress and transit to/from the airspace.	Lack of segregation under current solution, limited overland access. Stage 1 is anticipated to be too small for military activity with limited overland airspace. Stage 2 is anticipated to meet military requirements fully.	1. TDA status to add protection for military aircraft conducting Unusual Air Activity , separated from other airspace users. 2. Increased dimensions with overland access. 3. Future proofed to meet future military requirements.	1. Validate requirement for MDA status. 2. Confirm and validate vertical and lateral dimensions required for military activity. 3. Airspace activated in standard way via MABCC at D-1, removing requirement for ACN. 4. Timings for activation.
2	Airspace design suitable for the Network	Safe and standard management of GAT around the FCA reducing tactical interventions. A predictable and flight plannable environment.		1. Flamborough CTA to facilitate Newcastle inbound and outbounds. 2. Additional routes and structures may be required to support re-routes. 3. Ability to manage flight planning.	1. Airspace design is fit for purpose to manage GAT in a standard way. 2. Flight planning management and re-route scenarios defined. 3. Reduction in dedicated workforce resources to facilitate airspace activation. 4. Operational procedures and MOPs defined and agreed.
3	Identify and enhance safety mitigation	MoD has completed a Safety Assessment and trial will conform to safety elements of CAP740, the CAA Buffer Zone Policy for Special Use Airspace (SUA) and the establishment of Temporary Danger Areas. Safety barriers will be established to reduce risk to ALARP and in particular to minimise the risk of MAC. (See Annex E) Co-ordination procedures and positive control for participating aircraft entering and leaving the trial airspace (ingress/egress/mid-mission) will be agreed. Additional supporting airspace structures will be introduced to support where appropriate.e.g. Flight Plan Buffer Zones (FBZ), Temporary CAS, and routes.	CACA CONOPs inception in 2017 - NATS/MoD have previously used this agreement, however its use to facilitate this military activity has identified some issues, particularly in relation to Newcastle traffic, lack of segregation and lack of a predictable flight planning environment for GAT.	See Annexes A, B and E. 1. Formalising airspace structure and publication of airspace in AIP. 2. Activation of airspace D-1 via NOTAM. 3. Safety Assessments completed. 4. DASORS / MORs and other reported infringements are investigated, analysed and any lessons learned carried forward into Trial Stage 2 and ACP-2020-026.	1. Comply with standardised regulations and agreements as per existing SUA. 2. No safety incidents or issues identified by airspace users or ATC agencies throughout trial.
4	Identify formal FUA processes to ensure safe and efficient management of SUA vs ATM network	Management of the airspace will conform to Eurocontrol specification for the application of FUA, European ASM handbook and CAP740. Timing of the Trial Airspace will be co-ordinated with NATS pre-tactically through the AMC, with efficient tactical management during times of operation. Deconfliction with other segregated activities be addressed and ASM protocols agreed. (e.g. limit activities to EG D323/613/513/712 and 701 complexes and FJA for Joint Warrior airspace.)	1. Cumulative impact of concurrent DA activation across the FIR on the Network is unknown. 2. Formal procedures to manage the FCA do not exist.	1. NATS improved procedures for management of civil traffic for Stage 1 (over the CACA), with full systemised mechanism of traffic management for Stage 2. 2. 60mins flight planning time buffer before and after activation will be used to enable airspace configuration changes. 3. Airspace activations will feed into normal planning cycles AUP and UUP. Activation notification at D-1 activation by NOTAM. 4. L3 management will be conducted by MABCC. 5. P18 airway deactivation required to support; MABCC to action in accordance with existing LoA. 6. Flamborough CTA to facilitate Newcastle inbound and outbounds.	1. Alignment with CAP740. 2. ASM protocols required are identified and agreed. 3. Civil traffic managed in accordance with standardised procedures. 4. Validate time buffers required to facilitate FCA activation. 5. Concurrent suppression of other DAs as agreed.
5	Deliver a predictable flight planning environment for civil airspace users, conforming to UK Policy and Network Manager Requirements. Deliver predictable airspace availability to enable MoD exercise planning and delivery .	Civil-recognised processes for ensuring that Network flight planning will have been introduced where required, including updates to the AIP. Eurocontrol systems (tested) and ATM system adaptation (including the UK Flight Data Processor). Predictability will have been achieved by timely notification of change to airspace users and network managers of design and activation through recognised means including the UK Airspace Utilisation Plan. Military - confirmation of airspace available for activation 2 months prior to enable exercise planning activities.	1. No predictability of airspace and inability to FPL around the area for CACA. 2. Airspace should exist in LARA to apply FUA restrictions to manage flight planning and civil traffic. 3. No predictability of military to allow timely exercise planning.	1. Addition of FCA into LARA. 2. FCA input into AUP and UUP, as per CAP740. 3. Additional routes/structures to facilitate civil traffic around.	1. Management through AUP/UUP. 2. FPL can be managed SOP. 3. FCA exists in LARA, activated and deactivated. 4. Identify additional routes require to facilitate civil traffic. 5. Military airspace allocation available 2 months prior to activity.

6	Assess, identify and mitigate impact on wider ATM network and other aviation stakeholders - flight planning, fuel planning and time.	Engagement with airspace users will be completed to gather feedback and analytical data will be compiled (by NATS), reviewed and reported to demonstrate positive and negative effects.	Set baseline for comparison - compare against standard weekday with east coast DAs activated.		<p>1. Data gathered to compare against the baseline.</p> <p>2. Identify positive and negative effects - FPL issues, fuel planning and time.</p> <p>3. Assess design to understand if any further benefits can be gleaned through design or management.</p>
7	Assess, identify and mitigate impact on the environment, where required: flight efficiency to include fuel burn, CO2, noise.	Analytical data will be compiled, reviewed and reported to demonstrate positive and negative environmental effects on stakeholders and airspace users, comparing the standard routine airspace configuration (323/513/613 activations) with the trial airspace configuration (using data from consistent time frames) aiming to reduce any negative impacts to the minimum possible.	Set baseline for comparison - compare against standard weekday with east coast DAs activated.		<p>1. Data gathered to compare against the baseline.</p> <p>2. Identify positive and negative effects - fuel burn, CO2 emissions and noise.</p> <p>3. Assess design to understand if any further benefits can be gained through design or management.</p>
8	Assess, identify and mitigate impact on Network capacity and management	Analytical data will be compiled, reviewed and reported to demonstrate positive and negative effects on stakeholders and airspace users comparing current and Trial Airspace configurations. This will include short term air traffic flow capacity management (STAM) and possible/actual regulation of air traffic which will reduce to a minimum any negative impacts.		Measure impact of concurrent MDA activity in the rest of the FIR against FCA activation - suppression of 323/513/613 agreed to support FCA activation.	<p>1. Measure impact of concurrent MDA activity in the rest of the FIR (in particular West Coast) on route availability against FCA activation.</p> <p>2. Measure any impact (positive/negative) on track mileage, fuel burn, CO2 and time of re-routes (both overflight and ScTMA/MTMA in- and outbounds.)</p> <p>3. Identify capacity constraints or issues experienced from concurrent airspace activations and identify measures to mitigate and manage.</p> <p>4. No impact to ATM stakeholder flight planning.</p> <p>5. ASM protocols defined and agreed under LoA (Through ACP2020-026, permanent solution).</p>
9	Assess, identify and mitigate impact on operational delivery to enhance operational procedures and reduce NATS manpower requirements to support exercise airspace.	The impact on resource for operational delivery of the required airspace and its management will have been assessed and NATS staffing rostered. Legacy procedures and excessive staff resource for collective training will be reduced to the minimum required to deliver a safe and efficient outcome.	Current CACA CONOPs agreement is workforce and resource dependant. Inefficient and time consuming planning and execution. Non-standard methods of managing activity that can be standardised.	<p>1. Publication of airspace dimensions and activation protocols in AIP.</p> <p>2. Conforming to standardised processes to negate requirement of Liaison Officers, engagement or ACN publication.</p> <p>3. Flamborough CTA to facilitate Newcastle in- and outbounds.</p>	<p>1. Minimise resource required to facilitate the airspace activation.</p> <p>2. Remove requirement for NATS Liaison officer to facilitate military activity.</p> <p>3. Remove requirement for ACN, utilise AUP/UUP with NOTAMs for activation and notification.</p> <p>4. Standardised processes for flight planning and traffic management.</p>
10	Optimise planning and notification processes including assessing the requirement for/benefit of appropriate ASM systems and tools.	The UK AMC will have established and agreed processes and utilise the UK Airspace Management Tool (LARA) to provide transparent visibility of planned activities and airspace status. Benefits of common collaborative tools will have been identified and follow up activity agreed.	Airspace available in LARA to allow standardised FPLS	Engagement with AMC and NM for Oct.	<p>1. FCA Established in LARA which will be utilised to notify intended use, FUA restrictions applied to support activation enabling standardised FPL processes.</p> <p>2. Use of tools to manage any protocols required to support FCA activation. (e.g. EG D323 suppression etc).</p>
11	Assess, and where possible reduce, activation times of exercise and other segregated airspace for exercise periods to deliver enhanced ASM processes in line with UK Policy and Strategy.	Activation of Trial Airspace will have been reduced to the minimum time required to achieve the mission in line with FUA and ASM policy through improved collaborative planning activities, ASM and route management. Protocols for the management of simultaneous activations of east and west coast SUA will be identified and agreed between NATS and MOD.	Cumulative effect of concurrent Danger Area activations throughout FIR.	323/513/613 suppression.	<p>1. Measure the viability of concurrent airspace activation against network demand vs. capacity.</p> <p>2. Identify unmanageable combinations.</p> <p>3. Identify likelihood of concurrent mil activity and ability to deconflict or prioritise, whilst not diminishing Defence objectives and output.</p>
12	Identify technical and system changes required for ASM and ATC	Changes to systems will have been identified and implemented where required, to facilitate the safe and efficient management of the Trial Airspace.		<p>1. Trial Airspace Stage 1.</p> <p>2. Flamborough CTA.</p> <p>3. Trial Airspace Stage 2.</p>	<p>1. All routes and airspace structures identified and published in the AIP.</p> <p>2. All systems updated to reflect AIP publication.</p> <p>3. Update to ASM systems (LARA).</p>

13	Assess MoD use of the Trial Airspace for exercise activity and civil use of Network airspace during Trial.	Utilisation of airspace will be measured during the trial to assess and report how efficiently the Trial Airspace was used. Civil use of network airspace will also be analysed and reported to provide a complete picture of how efficient the airspace trial was and where enhancements could be made through either airspace and/or procedure developments.			<p>1. Airspace activation sufficient for military to train, enabling flexibility for unforeseen occurrence (emergency, weather etc)</p> <p>2. Civil use of airspace around the Trial Airspace activation.</p> <p>3. Time buffers required and route availability between configurations.</p> <p>4. Identify any issues with the design (shape, size) to ensure efficiency in utilisation.</p>
14	Impact to other airspace users	Measure of impact of unavailability of access to airspace e.g. Borders Gliding - TRA G			<p>1. Identify any additional impacts to other airspace users not already identified.</p> <p>2. Measure the impact of unavailability of airspace to other airspace users' operations.</p> <p>3. Identify and assess option to help mitigate, where possible.</p>