

CAA Operational Assessment

Title of airspace change proposal	Inclusion of Fast Jet Area (North) into UK AIP
Change sponsor	MoD
Project reference	ACP-2020-92
Account Manager	[REDACTED]
Case study commencement date	4 May 2023
Case study report as at	7 June 2023

Instructions

In providing a response for each question, please ensure that the ‘status’ column is completed using the following options:

- YES
- NO
- PARTIALLY
- N/A

To aid the SARG Lead it may be useful that each question is also highlighted accordingly to illustrate what is:

resolved YES not resolved PARTIALLY not compliant NO

Executive Summary

The Change Sponsor is seeking an airspace solution that meets the requirements of Defence during Ex JOINT WARRIOR, a large scale multi-national military exercise that routinely takes place on a biannual basis. Over a number of years, this requirement was met utilising ‘Fast Jet Areas’ – segregated airspace that was published in the Military AIP but not in the UK AIP. In order for UK Danger Areas to comply with both the UK’s Airspace Modernisation Strategy (AMS) and Free Route Airspace (FRA), every danger area requires a “parent” danger area in the UK AIP in order for Flight Buffer Zones to be applied and thus enable FRA. The sponsor assessed that in an increasingly busy UK airspace, segregated airspace of a large enough size and in a suitable location would not exist after FRA implementation and extant solutions were untenable to deliver the required needs of Defence.

As a result, the sponsor raised a SoN to seek a solution that met its requirements:

- Is within reach of Navy Forces, more specifically a Carrier Strike Group (with embarked 5th generation air systems) operating within Deep Water, which through the development of the scenario is likely to span hundreds of miles;

- Provides a sufficient mixture of overland and overseas areas which offers exercise planners flexibility to create more complex scenarios across both environments, for necessary littoral operations;
- Catered for kinetic and non-kinetic ranges within the area, which allows for necessary Air Land integration;
- Is of large enough size to accommodate representative operational numbers.

Options development looked at the potential of using extant danger areas. Ultimately the option carried forward, consulted on and presented for decision is the proven danger area structure of same dimensions and location as that previously utilised from the military AIP*. This is presented alongside an appropriate FRZ for compliance with FRA.

* Although the previous MilAIP entry was SFC to FL550, SFC-FL245 was never activated as a segregated danger area. The old MilAIP entry reads:

Within the Scottish FIR/UIR, 3 areas known as Fast Jet Areas (FJAs) have been established extending from the surface to FL 550; these areas will be notified by NOTAM. When activated, the FJAs will be afforded the segregated status of Special Use Airspace between FL245 and FL550, as defined in CAP 740 Appendix A. Intense aerial activity can be expected with large formations of fast jet attack aircraft conducting high energy evasive manoeuvres against opposing air defence aircraft. Below FL245 the FJAs do not hold segregated status; however, civilian aircraft are advised that, if they proceed into the FJAs when active, they should expect intense aerial activity with aircraft which may not be able to comply with Rules of the Air.

1.	Justification for change and options analysis (operational/technical)	Status
1.1	Is the explanation of the proposed change clear and understood?	YES
	The SoN and subsequent submissions clearly explain the need for the change – the executive summary for which is presented above.	
1.2	Are the reasons for the change stated and acceptable?	YES
	The change sponsor presents sufficient and acceptable reasoning for the change.	
1.3	Have all appropriate alternative options been considered, including the ‘do nothing’ option?	YES
	Option 0, the do-nothing option, aimed to examine whether alternatives existed which would still facilitate the air elements of Ex Joint Warrior in accordance with the SoN. It was found there were elements of the current MDAs that satisfied individual DPs, however there was no specific danger area or combination of danger areas that could be used to facilitate the MoD’s requirements as stated in above.	

	This resulted in the option to establish FJAs of same lateral and vertical dimensions as per Mil AIP ENR being taken forward for consultation.	
1.4	Is the justification for the selection of the proposed option sound and acceptable?	YES
	The change sponsor presents sound reasoning in support of the proposed option. The proposed option is for the FJAs to be the same dimensions vertically and laterally as per the Mil AIP ENR. The sponsor stated that the proposed option, 'Establishing FJA(N) and FJA(S) as per previous dimensions' (option 1) satisfies both the SoN (allowing the MoD to have a geographically relevant segregated airspace in which to exercise modern joint and foreign elements for Ex JW), the Design Principles agreed in Stage 1, and meets 9 out of the 11DPs.	

2.	Airspace description and operational arrangements	Status
2.1	Is the type of proposed airspace design clearly stated and understood?	YES
	The proposed airspace design are two danger areas (FJA 'North' and FJA 'South') of same dimensions vertically and laterally as per the Mil AIP ENR.	
2.2	Are the hours of operation of the airspace and any seasonal variations stated and acceptable?	YES
	<p>In accordance with the stated requirements, the danger areas would be activated solely for use by Ex JOINT WARRIOR. It is anticipated that there would be:</p> <ul style="list-style-type: none"> • 2 Exercises per year that require FJA DA activation; • 5 Activations of the FJA per exercise; • FJA(N) and FJA(S) will not be activated concurrently; • Most common activation time will be 1030-1330 UTC; • Proximate or overlapping MDAs will not be activated at the same time. <p>The FJAs will be activated via NOTAM when required only during Ex JW. When activated, the FJAs will be afforded the segregated status of Special Use Airspace (SUA) between FL245 and FL550, as defined in CAP 740 Appendix A. Under the EUROCONTROL Flexible Use of Airspace (FUA), the airspace will be managed and handed to Civil use should the FJA not be required (cancellation of aircraft, poor weather, sortie completed early etc.)</p>	
2.3	Is any interaction with adjacent domestic and international airspace structures stated and acceptable including an explanation of how connectivity is to be achieved? Has the agreement of adjacent States been secured in respect of High Seas airspace changes?	YES

	<p>The proposed structures provide segregation between non-participating traffic and military exercise traffic conducting high energy manoeuvres within the structure – therefore connectivity is not a factor. The FJAs are within Scottish UIR and interact with Free Route Airspace (FRA).</p> <p>The airspace change, if approved, will require notification to ICAO.</p>	
2.4	Is the supporting statistical evidence relevant and acceptable?	YES
	The change sponsor has provided statistical based evidence as part of the Environmental Impact Assessment in accordance with the airspace change requirements.	
2.5	Is the analysis of the impact of the traffic mix on complexity and workload of operations complete and satisfactory?	YES
	The change sponsor has provided a safety assessment that details impact against the benefits of using the proposed danger areas. When the airspace is active, it will be exclusively for the use of JTEPS for Ex JOINT WARRIOR. There will be no increase in GAT due to the activation of the airspace, so no change is anticipated on complexity or workload.	
2.6	Are any draft Letters of Agreement and/or Memoranda of Understanding included and, if so, do they contain the commitments to resolve ATS procedures (ATSD) and airspace management requirements?	YES
	<p>The Change Sponsor has created a Letter of Agreement (LoA) in order to deconflict the activation of local airspace and previously agreed protocol. This has been presented in draft.</p> <p>In accordance with MoD policy, the MAMC is responsible for ensuring that EG D701E and/or EG D701F activation at or above 29,000ft is not concurrent with EG D712 activation or Military Exercises operating in adjacent Fast Jet Area South (FJAS) or Fast Jet Area North (FJAN). These areas cannot be active at the same time period to allow GAT to transit safely to the east of EG D701E and/or EG D701F.</p> <p>As was previously with the FJA activation, Moray (MOR) CTA 12 & 13 must be activated alongside in order to allow greater GAT air traffic flow into ATS route N560.</p>	
2.7	Should there be any other aviation activity (low flying, gliding, parachuting, microlight site etc) in the vicinity of the new airspace structure and no suitable operating agreements or ATC Procedures can be devised, what action has the change sponsor carried out to resolve any conflicting interests?	YES

	The change sponsor has considered the close proximity of the TRA(G) Scottish Upper Area (North). As current dimensions of the FJAs are identical to this change proposals, there remains minimal impact to gliding activity. Correspondence with the British Gliding Association (BGA) showed that they have noted the impact but continued to be supportive of the proposal.	
2.8	Is the evidence that the airspace design is compliant with ICAO SARPs, airspace design & FUA regulations, and Eurocontrol guidance satisfactory?	YES
	The airspace design is compliant with CAA policy Document 20200721-“CAA Policy for the established for permanent and temporary Danger Areas” issued by the SARG and is in accordance with CAP 740.	
2.9	Is the proposed airspace classification stated and justification for that classification acceptable?	YES
	The proposal is SUA, which does not alter the classification of the volume of airspace within which remains class C.	
2.10	Within the constraints of safety and efficiency, does the airspace classification permit access to as many classes of user as practicable?	YES
	As stated in 2.9, there is no change to the airspace classification. The intention of the proposed MDAs segregate the activity occurring inside the structures from non-participating traffic outside.	
2.11	Is there assurance, as far as practicable, against unauthorised incursions? (This is usually done through the classification and promulgation.)	YES
	Changes to the airspace would be notified through the AIRAC publication, detailed within the UK AIP and aeronautical charts. Activation of the proposed MDA structures will be through NOTAM through the AMC, with exercise planning occurring well in advance of activation. The sponsor states that exact activation requirements will be worked out 1-2 weeks prior to the start of each exercise. The proposal incorporates a flight plan buffer zone (FBZ) to ensure separation with GAT in both time and space. The MDA, routings and FBZ will be made known to EUROCONTROL for network visibility reducing the risk of any late notice route changes to aircraft in flight.	
2.12	Is there a commitment to allow access to all airspace users seeking a transit through controlled airspace as per the classification, or in the event of such a request being denied, a service around the affected area?	YES

	The intention of the proposed MDAs segregate the activity occurring inside the structures from non-participating traffic outside. GAT must plan to route around the structure (and FBZ) when active. However, iaw EUROCONTROL Flexible Use of Airspace Strategy (as per CAP740) the airspace will be managed and handed back to civil use should the danger areas not be required (eg due to cancellation, weather or exercise completed early etc).	
2.13	Are appropriate arrangements for transiting aircraft in place in accordance with stated commitments?	YES
	Non-participating traffic will not transit the airspace when active. There will be a requirement for activation of MOR CTA 12 & 13 by PC Reservation to allow efficient flow of Air Traffic in and out of the Scottish TMA.	
2.14	Are any airspace user group's requirements not met?	NO
	Consultation has shown that NATS is the main impacted user group and the sponsor has been in close contact with NATS throughout the ACP. There will be a restriction to the proposed Space Hub Sutherland that sits below one of the MDAs but activity will be deconflicted.	
2.15	Is any delegation of ATS justified and acceptable? (If yes, refer to Delegated ATS Procedure).	YES
	When active, the MoD will be responsible for the airspace contained within the proposed MDAs (78 Sqn, 19 Sqn or HM Ship based control).	
2.16	Is the airspace design of sufficient dimensions with regard to expected aircraft navigation performance and manoeuvrability to contain horizontal and vertical flight activity (including holding patterns) and associated protected areas in both radar and non-radar environments?	YES
	The proposed MDA volume of airspace is designed to contain the high energy manoeuvres, supersonic flight and UAS BVLOS operations that would take place during Ex JW, which require segregation from GAT for the protection of both military exercise traffic and civil aviation. The airspace dimensions were deliberately chosen to remain the same as the FJA previously were during previous Ex JW with operating protocols agreed with NATS.	
2.17	Have all safety buffer requirements (or mitigation of these) been identified and described satisfactorily (to be in accordance with the agreed parameters or show acceptable mitigation)? (Refer to buffer policy letter.)	YES
	As part of the introduction into the UK AIP, the FJAs require a 5nm Flightplan Buffer Zone (FBZ), in particular with aircraft engaged in High Energy Manoeuvres (HEM). The sponsor has worked in conjunction with NATS to obtain the FBZ data for the proposed airspace and a 5nm buffer has been decided upon in compliance with the SARG Safety Buffer Policy. Any change of use, such as to include UAS BVLOS will require buffer policy to be revisited.	

2.18	Do ATC procedures ensure the maintenance of prescribed separation between traffic inside a new airspace structure and traffic within existing adjacent or other new airspace structures?	YES
	By nature of the DA and application of appropriate buffer policy as detailed above, ATC procedures ensure safe separation of non-participating traffic with military exercise traffic inside the danger areas. Air Traffic within the danger area will be managed by 78 Sqn and 19 Sqn in order to allow oversight and control.	
2.19	Is the airspace structure designed to ensure that adequate and appropriate terrain clearance can be readily applied within and adjacent to the proposed airspace?	N/A
	The airspace structure lower vertical limit is FL245.	
2.20	If the new structure lies close to another airspace structure or overlaps an associated airspace structure, have appropriate operating arrangements been agreed?	YES
	The new structure is within the Scottish UIR, class C airspace. MoD/NATS coordination is detailed in the LoA. The structure is also proximate to the EDG701 Hebrides Range complex. Interaction with this complex is detailed in the LoA.	
2.21	Where terminal and en-route structures adjoin, is the effective integration of departure and arrival routes achieved?	N/A
	The proposed structure does not adjoin terminal and en-route structures.	

3.	Supporting resources and communications, navigation and surveillance(CNS) infrastructure	Status
3.1	Is the evidence of supporting CNS infrastructure together with availability and contingency procedures complete and acceptable? The following are to be satisfied:	
	<ul style="list-style-type: none"> Communication: Is the evidence of communications infrastructure including RT coverage together with availability and contingency procedures complete and acceptable? Has this frequency been agreed with AAA Infrastructure? 	YES

	The proposed FJAs are located within the Scottish FIR boundaries. This area is covered by both 78 Sqn and 19 Sqn ICFs.	
	<ul style="list-style-type: none"> • Navigation: Is there sufficient accurate navigational guidance based on in-line VOR or NDB or by approved RNAV-derived sources, to contain the aircraft within the route to the published RNP value in accordance with ICAO/ Eurocontrol standards? For example, for nav aids, has coverage assessment been made, such as a DEMETER report, and if so, is it satisfactory? 	N/A
	Not applicable.	
	<ul style="list-style-type: none"> • Surveillance: Radar provision – have radar diagrams been provided, and do they show that the ATS route/airspace structure can be supported? 	N/A
	Not applicable.	
3.2	Where appropriate, are there any indications of the resources to be applied, or a commitment to provide them, in line with current forecast traffic growth acceptable?	N/A
	Not applicable.	

4.	Maps/charts/diagrams	Status
4.1	<p>Is a diagram of the proposed airspace included in the proposal, clearly showing the dimensions and WGS84 coordinates?</p> <p>(We would expect sponsors to include clear maps and diagrams of the proposed airspace structure(s) – they do not have to accord with aeronautical cartographical standards (see airspace change guidance), rather they should be clear and unambiguous and reflect precisely the narrative descriptions of the proposals.)</p>	YES
	The sponsor has provided WGS84 coordinates and aeronautical charts showing the proposed airspace structure.	

4.2	Do the charts clearly indicate the proposed airspace change?	YES
	The charts clearly indicate the proposed change.	
4.3	Has the change sponsor identified AIP pages affected by the change proposal and provided a draft amendment?	YES
	The sponsor has identified the required AIP change and provided an adequate draft for both the danger area and FBZ structures.	
4.4	Has the change sponsor completed the WGS84 spreadsheet and submitted to the CAA for approval?	YES
	An aerodata spreadsheet has been provided and approved.	

5.	Operational impact	Status
5.1	Is the change sponsor's analysis of the impact of the change on all airspace users, airfields and traffic levels, and evidence of mitigation of the effects of the change on any of these, complete and satisfactory? Consideration should be given to:	
	a) Impact on IFR General Aviation traffic, on Operational air traffic or on VFR General Aviation traffic flow in or through the area.	YES
	Due to the location of the FJAs, there will be an impact on GAT in the area which has been analysed sufficiently by the sponsor in cooperation with NATS.	
	b) Impact on VFR Routes.	YES
	There are no identified VFR routes in the areas of the proposed airspace structures.	

	c) Consequential effects on procedures and capacity, i.e. on SIDs, STARs, holds. Details of existing or planned routes and holds.	YES
	Due to location of the proposed airspace, there have been no other consequential effects identified.	
	d) Impact on airfields and other specific activities within or adjacent to the proposed airspace.	YES
	There is a consequential impact to the EG D701 Hebrides Range complex. An LoA for the use of EG D901 and EG D713 to allow flexible use has been presented.	
	e) Any flight planning restrictions and/ or route requirements.	YES
	Free Route Airspace allows routing around the FJAs whilst active. The airspace is bookable through the MAMC iaw extant Airspace Management Procedures which will inform airlines when the FBZ is active for their flight planning purposes. Airspace will be handed back when not in use.	
5.2	Does the change sponsor consultation material reflect the likely operational impact of the change?	YES
	The consultation material accurately reflected the likely operational impact of the change which is expected to be limited and well understood considering the structure has been used prior to FRA deployment.	

Case study conclusions – to be completed by Airspace Regulator (Technical)		Yes/No
Has the change sponsor met the SARG airspace change proposal requirements and airspace regulatory requirements above?		YES
The sponsor has met the airspace regulatory requirements for the proposed Fast Jet Area danger areas.		

RECOMMENDATIONS/CONDITIONS/PIR DATA REQUIREMENTS	Yes/No
<p>Are there any Recommendations which the change sponsor should try to address either before or after implementation (if approved)? If yes, please list them below.</p>	NO
<p>GUIDANCE NOTE: Recommendations are something that the change sponsor should try to address either before or after implementation, if indeed the airspace change proposal is approved. They may relate to an area in which the change sponsor is reliant upon a third party to actually come to an agreement and consequently they do not carry the same 'weight' as a Condition.</p>	
<p>Are there any Condition(s) which the change sponsor must fulfil either before or after implementation (if approved)? If yes, please list them below.</p>	NO
<p>GUIDANCE NOTE: Conditions are something that the change sponsor must fulfil either before or after implementation, if indeed the airspace change proposal is approved. If their proposal is approved, change sponsors must observe any condition(s) contained within the regulatory decision; failure to do so will usually result in the approval being revoked. Conditions should specify the consequence of failing to meet that condition, whether that be revoking the ACP or some alternative.</p>	
<p>Are there any specific requirements in terms of the data to be collected by the change sponsor for the Post Implementation Review (if approved)? If yes, please list them below.</p>	NO
<p>GUIDANCE NOTE: PIR data requirements concerns any specific data which the change sponsor must collate post-implementation, if indeed the airspace change proposal is approved. Please use this section to list any such requirements so that they can be captured in the regulatory decision accordingly.</p>	

General summary

The sponsor has successfully used the CAP1616 process as an opportunity to consider alternative options to the previously utilised airspace using combinations of existing MDAs. Ultimately, the sponsor has concluded that the optimum solution to meet the requirements of Exercise JOINT WARRIOR is to use danger areas of same location and size as that was previously used prior to the deployment of free route airspace. Nevertheless, the process has allowed the sponsor to test assumptions and review the structure/management principles to ensure that the airspace and associated processes remain valid in the changed environment which including new stakeholders.

Comments and observations

N/A

Level 2 ACP

Operational assessment sign-off	Name	Signature	Date
Operational assessment completed by Airspace Regulator (Technical)	[REDACTED]	[REDACTED]	7/6/2023
Manager Airspace Regulator comment / Decision	Name	Signature	Date
Operational assessment conclusions approved by Manager Airspace Regulator	[REDACTED]	[REDACTED]	8/6/2023
Manager Airspace Regulator Comments: Comments found within Decision Log			