

CAA Targeted Engagement Assessment – Temporary Airspace Changes

Title of airspace change proposal	Enabling Test and Evaluation (T & E) activity of Protector in UK airspace Spring/Summer 2024
Change sponsor	Ministry of Defence
Project reference	ACP-2023-047
Case study commencement date	17 January 2024
Case study report as at	6 February 2024
<p><i>Instructions</i></p> <p>In providing a response for each question, please ensure that the 'status' column is completed using the following options:</p> <ul style="list-style-type: none"> • YES • NO • PARTIALLY • N/A <p>To aid the SARG Lead it may be useful that each question is also highlighted accordingly to illustrate what is:</p> <p>resolved YES not resolved PARTIALLY not compliant NO</p>	

Targeted Engagement Assessment		
1	Has the change sponsor identified the right audience(s) and provided a rationale for selecting them?	Yes
	<p>The sponsor engagement with aviation stakeholders, as required by the CAP 1616 trials process. CAP 1616 (Para 317) states that aviation stakeholders include airspace users, ANSPs and airports. The sponsor engaged with the following groups of stakeholders:</p> <ul style="list-style-type: none"> - 33 x NATMAC representatives - 58 x local aviation stakeholders. The stakeholders the sponsor targeted included airspace users such as Cambridge Gliding Club, East Anglia Air Ambulance, Babcock International and UAV Police, ANSP NATS and airports including Cambridge Airport, East Winch Airfield, Norwich Airport and Felthorpe Airfield - 6 x other aviation stakeholders including Helicentre Aviation and Heli Air (both Pipeline Inspections), PDG Helicopters and the National Grid. <p>It has not been possible to establish whether the sponsor liaised with CAA Flight Ops on stakeholder identification.</p> <p>The sponsor did not provide their rationale for selecting their local aviation and other aviation stakeholders within their final airspace change proposal but did provide the information on request by the CAA. The sponsor identified local aviation stakeholders from an area</p>	

	<p>within a radius approximately 20 miles of RAF Marham by scrutiny of aeronautical charts. They identified other stakeholders from the list of those that they have contact with via other airspace change proposals, for example those conducting pipe and powerline inspections and Drone Wars.</p> <p>The sponsor asked the Secretary within Marham ATC to forward an engagement launch email to civilian members of the East Anglia Airspace Users Working Group (EAAUWG) and email evidence of this has been provided.</p> <p>The sponsor has provided a list of their stakeholders at Appendix A to their Summary of Stakeholder Engagement – Version (V) 1.1 document.</p>	
2	Has the change sponsor explained the engagement methodology / approach used?	Yes
	<p>The sponsor has explained that they engaged primarily via email but also met with stakeholders as required. An engagement chronology has been supplied. This shows that a meeting was held in-person with Norwich Airport on 1 November 2023 which was just prior to commencement of the formal engagement period. In addition, during the formal engagement period, the sponsor met with NATS on 6 December 2023 and with RAF Marham Air Traffic Control (ATC) and MoD Battlespace Management Force on 13 December 2023. The sponsor signposted stakeholders to an engagement letter which was available on the CAA's airspace change portal.</p> <p>The sponsor conducted one round of engagement.</p> <p>The sponsor did not share their strategy/approach with the CAA in advance of commencing engagement.</p>	
3	What materials have been used by the change sponsor during the targeted engagement?	
	<p><u>Introductory email and engagement letter</u></p> <p>The sponsor circulated an introductory email together with an engagement letter on the launch of their formal engagement period. The letter included information on the following:</p> <ul style="list-style-type: none"> • An introduction to the requirement to trial segregated airspace in the form of a Temporary Danger Area (TDA) centred on RAF Marham being used as a diversion airfield for both Remotely Piloted Air System (RPAS) Protector RG MK1 UK test and evaluation (T & E) activity and later in-service operations. • The requirement for the TDA to be active for all Protector flying, including sorties from RAF Waddington when a planned diversion is not expected. • An illustration of the lateral dimensions of the proposed TDA, comprising a cylinder of 5 nm radius with vertical dimensions of surface (SFC) to Flight Level (FL) 195. • An explanation of measures proposed to minimise the impact on other airspace users, including the proposal to offer a Danger Area Crossing Service (DACS) and that Protector will be equipped with a transponder and will squawk as directed by Air Traffic Control (ATC). • Proposed utilisation in terms of conducting up to 2 planned flights in and out of RAF Marham between May and 	

	<p>August 2024.</p> <ul style="list-style-type: none"> The sponsor advised stakeholders that they had commenced a further airspace change (ACP-2023-022) for permanent segregated airspace in the vicinity of RAF Marham on which feedback would be sought in due course. The sponsor provided information on how feedback could be provided, and the timeline being given to do so, provided contact details, and included a response form for completion. <p><u>Presentation</u></p> <p>The email evidence shows that the sponsor delivered a power point presentation to NATS at the engagement meeting held on 6 December 2023. This presentation set out the Statement of Need (SoN) for this proposal and proposed airspace together with points for discussion regarding the CAA Safety Buffer Policy and the ACPs timescales.</p> <p>The sponsor's engagement letter addressed safety and operational viability and provided information on measures proposed to mitigate impact on other airspace users. The documentation was written in plain English with clear explanations of technical aviation terms and included more lengthy explanations via footnotes (for example when explaining Notice to Air Missions (NOTAM), Flight Levels (FL) and Beyond Visual Line of Sight (BVLOS)). Although the sponsor's engagement activity was targeted at an aviation audience, as required by Para 317, CAP 1616 V.4, the material was written in a manner that would have enabled a non-aviation stakeholder to provide an informed response.</p>	
4	Does the Engagement Summary Report clearly detail the period of engagement? Please include the start/end date and duration of engagement period along with a summary of the change sponsors rationale for pursuing a shorter/longer engagement (where applicable).	Yes
	<p>Yes, the Engagement Summary Report clearly details the period of engagement:</p> <p>Start date: 10 November 2023</p> <p>End date: 22 December 2023</p> <p>Duration: 6 weeks</p>	
5	Was the period of engagement appropriate?	Yes
	CAP 1616 does not set out an expected standard of length for engagement for an airspace trial. No explanation has been provided by the sponsor for the length of engagement period chosen. However, when considering the length of 6-weeks expected for engagement on a temporary airspace change proposal, and considering the targeted audience engaged, 6 weeks was a proportionate engagement period.	
6	Has the change sponsor accurately summarised what stakeholders have said and identified all the issues raised during the engagement in the stakeholder engagement summary document? Does the stakeholder engagement summary document detail the change sponsor's response to the identified issues?	Partially

	<p>The sponsor provided raw data to support their final airspace change proposal comprising:</p> <ul style="list-style-type: none"> • Launch email to stakeholders with engagement letter • Power point presentation that was delivered to NATS on 6 December 2023 • Email correspondence with stakeholders • Completed feedback forms. <p>The sponsor received 9 stakeholder responses. Issues raised during engagement and the sponsor's response to those issues have been captured within the Summary of Stakeholder Engagement report (V1.1). All raw data engagement feedback has been reviewed by the CAA. Stakeholder responses and the sponsor's response to the issues raised is set out below:</p> <p><u>Danger Area Crossing Service (DACS)</u></p> <p>Babcock, as the aviation partner of the East Anglia Air Ambulance (EAAA) operating from Norwich and Cambridge Airports, stated that they would not object to the ACP if a DACS was available to enable entry in accordance with Helicopter Emergency Medical Service (HEMS) tasking.</p> <p>DAATM stated there was a need for DACS provision due to military activity in the area. This included extensive use by fast jets for training up to FL245 by RAF Coningsby, RAF Lakenheath and RAF Marham airspace users, close air support and forward air control exercises supported by fast jets, F-35B Practice Flame Out (PFO) approaches and Lakenheath departures and arrivals routing through Marham overhead to and from the D323 complex.</p> <p>Cambridge Gliding Club provided feedback on the importance of East Anglia for gliding activities and asked for impact on glider pilots to be minimised. They requested a DACS provision that was not dependent on the availability of a transponder saying that relatively few gliders are transponder equipped.</p> <p>Sponsor's response: A DACS will be available during all periods of the TDA activation from Marham ATC. Non-transponder aircraft will be able to obtain a DACS provided they are radio-equipped. A Danger Area Activity Information Service (DAAIS) will be available from Marham ATC during TDA hours of activation and ATC opening hours. The sponsor has stated within their trial plan that DACS requests will be denied while Protector is actually operating within the TDA, and they assess the impact of this to be a worst-case delay of 10 – 15 minutes per event.</p> <p>After the engagement activity had closed, the sponsor asked NATS if a DAAIS could be provided by London Flight Information Service (FIS) when RAF Marham Air Traffic Control (ATC) was closed. NATS confirmed that this service would be provided.</p> <p><u>Access to power lines</u></p>
--	---

	<p>National Grid provided feedback that, as long as a DACS could co-ordinate access to powerline inspection helicopters operating below 500ft Above Ground Level (AGL), they would not object.</p> <p>Sponsor's response: Minimal disruption is anticipated. The airspace will be activated by NOTAM. There are only likely to be 2 occasions during the duration of the TDA when Protector is expected to trial RAF Marham as a diversion airfield. At other times, a DACS is likely to be similar to crossing the Military Aerodrome Traffic Zone (MATZ), pending routine activity at RAF Marham. The worst-case scenario will be for National Grid to be held off until Protector has landed or cleared the TDA.</p> <p><u>Designation of airspace as Class C airspace</u></p> <p>East Winch Airfield (referred to as being directly under the proposed airspace area) requested that the sponsor avoid use of a Danger Area (DA) and instead designate the airspace as controlled Class C airspace and allocate a squawk for both visiting and home aircraft operating in the area. Broughton South Airfield made the same request, raising concerns regarding having to find a suitable General Aviation (GA) field outside the proposed area due to significant costs that would be incurred in transportation and potential overnight stays.</p> <p>Sponsor's response: Class C airspace option has been considered but ruled out due to three considerations. Firstly, to maintain Flexible Use Airspace (FUA) as the hours of activation of Class C airspace have to be notified in the UK Aeronautical Information Publication (AIP) and so it would be active during potentially many hours/days when Protector would not be flying and could not be activated for short-notice defence requirements outside promulgated hours. Secondly as Class C airspace has to be managed at all times by Air Traffic Control (ATC) the MoD would have to provide an ATC service to other airspace users potentially outside RAF Marham's opening hours and during the hours/days that Protector is not scheduled to fly. Thirdly restrictions would have to be placed on other airspace users for example by having to carry a radio.</p> <p>As a result of this stakeholder feedback the sponsor revised the airspace design to incorporate a vertical internal division, thereby splitting the airspace into 2 sectors to improve FUA and to minimise impact on local airspace users by facilitating more expeditious air traffic management (ATM).</p> <p><u>Reduce or adapt radius of airspace design.</u></p> <p>A private pilot at East Winch Airfield commented that there must be flexibility to accommodate the needs of the Airfield with it being operational 7 days per week. They requested that the proposed radius be reduced from 5nm to 4.5nm to exclude their Airfield or that the radius be adapted to the north to exclude the Airfield.</p> <p>Sponsor's response: The MoD is aware of the impact that the airspace may have on General Aviation (GA) activity in general and airfields like East Winch in particular. The radius of the airspace has been pared down to 5nm following close work with the aircraft's manufacturer</p>
--	--

and in-service personnel. Reducing the radius further than 5nm or adapting the shape is not possible due to the Automatic Take-Off and Landing Capability (ATLC) requirement proved during ACP 2023 – 003 (TDA for Protector Test and Evaluation Flying at RAF Waddington). The design of the airspace cylinder will be split into 2 sectors to minimise impact to local airspace users.

Increased workload for ATC Marham

DAATM raised what they referred to as minor impacts in that management of the TDA and DACS provision would mean an increase in ATC workload for Marham and would add another layer to flight planning for crews within congested airspace.

Sponsor's response: The sponsor does not appear to have specifically responded to this issue. They have stated that RAF Marham ATC will be staffed at all times during Protector operations and there are to be two planned diversions to RAF Marham during the duration of the TDA with each diversion involving an arrival and departure from RAF Marham. (The TDA will need to be active for all Protector flying though, including sorties from RAF Waddington when a planned diversion is not expected. A DACS is being provided during all periods of the TDA activation from Marham ATC).

CAA Safety Buffer Policy

NATS/NERL responded that given the location and dimensions of the proposed airspace, they anticipated little impact for NERL. With the proposed airspace contained entirely within Class G airspace up to Flight Level (FL) 195 away from other airspace structures, they stated that no current Air Traffic Services (ATS) routes would be impacted. As a result, NATS/NERL considered the Buffer Policy to not be a significant factor. This view was confirmed in a meeting with the sponsor (December 2023) on sight of the application for dispensation from the Safety Buffer Policy.

Sponsor's response: Lateral dispensation from the CAA Safety Buffer Policy is not required as there is no controlled airspace (CAS) within 5nm of the proposed TDA. Vertical dispensation is sought as the upper limit of the proposed TDA directly abuts the lower limit of Class C airspace.





Application for Dispensation from CAA Special Use Airspace – Safety Buffer Policy for Airspace Design Purposes is contained within Appendix C to the sponsor's trial plan [Enabling T&E activity of Protector in UK airspace Spring/Summer 2023 - 20240130 ACP-2023-047 TDA Submission V1.1.pdf - All Documents \(sharepoint.com\)](#)

Other feedback from NATS

NATS asked for more detail on flying timings and operations. They expressed concern regarding this model of airspace being transposed for any future requirements for diversion locations where the airspace may be more challenging. They stated that the proposal and engagement material make several assumptions, notably that Protector Flights will take place in Class C airspace or a Temporary Reserved

	<p>Area (TRA) within Class C when notified as active, but this was yet to be established. Further NATS requested further regulation/policy on RPAS integration rather than segregation as the proposed activations segregating the airspace from other users does not demonstrate adherence to FUA principles, could be viewed as wasteful in respect of airspace and have the potential to increase workload for Flight Information Service (FIS) delivery and information management.</p> <p>Sponsor's response: Timings and operations required for Test and Evaluation are not yet finalised but will be provided in sufficient time to allow for procedures and operational agreements to be prepared and assured. ACP- 023-001 Amendment to Rules for Temporary Reserved Areas was approved by the CAA December 2023 for the amendment of TRA rules which allows for suspension of military autonomous operations in a TRA when BVLOS activity is notified (CAA confirmation that ACP-023-001 was approved December 2023 as a Level 0 change). The need for the policies on reducing the need for segregation is out of scope for this ACP.</p> <p><u>Letters of Agreement (LoA)/Draft Procedures</u></p> <p><u>East Winch Airfield</u> asked to agree an arrival and departure route so as not to conflict with the TDA. The sponsor has submitted proposed Letter of Agreement between the owner of West Winch Airfield and RAF Marham.</p> <p><u>DAATM</u> sought a LoA to allow access for military aircraft when not in use by Protector to avoid the TDA being overly restrictive. The sponsor has submitted proposed amendments to a Letter of Agreement between Lincs TATCC, RAF Waddington, RAF Coningsby, RAF Cranwell, 78 Sqn Swanwick and 56 Sqn for Protector Operations, including the Marham airspace into the original Waddington airspace and adding RAF Marham to the LoA signatories.</p> <p><u>Broughton South Airfield</u> asked to establish agreed upon air entry/exit routes for each airfield within the zone. The sponsor has submitted proposed Letter of Agreement between the owner of Boughton South Airfield and RAF Marham and proposed Letter of Agreement between the owner of Boughton North Airfield and RAF Marham.</p> <p><u>Protector Procedures</u> - The sponsor has submitted Draft Procedures for Protector operations.</p> <p>Draft LoAs and draft Procedures are contained within Appendix B to the sponsor's trial plan. Enabling T&E activity of Protector in UK airspace Spring/Summer 2023 - 20240130 ACP-2023-047 TDA Submission V1.1.pdf - All Documents (sharepoint.com)</p>	
7	Is the change sponsor's response to the issues raised appropriate/adequate?	Yes
	A revision was made to the final airspace design on account of feedback. While not changing the overall volume of airspace proposed, the sponsor split the airspace into 2 sectors by incorporating a vertical internal division. The sub-division provides for EGD###A from Surface	

	<p>(SFC) to FL105 and EGD###B from FL105 to FL195. This revision was made to facilitate more expeditious air traffic management and minimise impact on airspace users by reducing holding times and promoting FUA for both civil and military local airspace users. The sponsor plans to assess the suitability of the level of the vertical division during the airspace trial, if approved.</p> <p>The sponsor made no changes to the notification procedures or airspace management as engaged upon. They have responded to stakeholder feedback in the drafting of LoAs and draft Procedures as discussed at Qu.6 above.</p>	
8	Has the change sponsor set out how they will collate, monitor, and report to the CAA on the level and content of the complaints?	Yes
	The sponsor addressed how they will collate, monitor, and report to the CAA on the level and content of complaints/feedback. This requirement is confirmed by way of a condition set out at Qu.11 below which also provides the frequency of reporting expected.	
9	Is the proposal likely to affect traffic operating below 7000ft over an inhabited area? If yes, has the change sponsor provided the brief impact analysis to explain the likely impacts and explained how they will inform relevant community stakeholders?	Yes
	<p>The sponsor has provided an impact analysis. Their conclusion is that the same amount and type of noise is likely to impact the local population as is the case now. They state that as the change is likely to impact only 1 or 2 civil airspace users on the busiest flying day and considering the mitigations such as NOTAM and DACS being put in place, they have assessed the overall impact of the proposed change on noise as negligible and concluded that there is no requirement to inform community stakeholders.</p> <p>The CAA agrees with the sponsor's assessment and conclusion (see CAA Regulator (Environment) Assessment).</p>	
10	Taking the above considerations into account, does the SME recommend that this proposal has met the engagement requirements of the Temporary Airspace Change process?	Yes
	The sponsor presented engagement material for stakeholders that addressed safety and operational viability and was written in a clear and comprehensive manner to enable stakeholders to provide informed responses. They allowed a sufficient timeframe for responses by engaging with stakeholders for 6-weeks, an appropriate and proportionate period of time considering the nature of the proposal and their targeted stakeholder audience. Although only a small number of responses were received, the sponsor took into account the feedback they received by revising their final airspace design to minimise its impact to other airspace users and also responded to stakeholder feedback via Letters of Agreement.	
11	Are there any Condition(s) which the change sponsor must fulfil before activation (if approved)? If yes, please list them.	Yes
	<ul style="list-style-type: none"> Finalise Letters of Agreement. A copy of the final versions must be provided to the CAA along with evidence of the agreement of all parties (either through signatures on the document or alternative information that confirms acceptance by all parties) prior to commencement of the Trial. The change sponsor should inform the stakeholders of the decision (when published), likely impacts and what will happen next. 	

	<ul style="list-style-type: none"> The sponsor is required to collate, monitor, and report to the CAA on the level and contents of feedback received during the period of the Trial. The CAA expect reporting on the level and contents of any stakeholder feedback received on a fortnightly basis throughout the duration of the Trial (this should include nil returns). The sponsor should send these reports to the assigned Account Manager/Case Officer. <p>Recommendation: The sponsor has submitted Draft Procedures for Protector operations. It is recommended that a copy of the final version be provided to the CAA prior to commencement of the Trial.</p>		
Targeted Engagement Assessment sign-off			
	Name	Signature	Date
Assessment completed by Airspace Regulator (Engagement and Consultation)			06.02.24
Engagement assessment approved by Manager Airspace Regulation (or alternative delegation of authority)			16/2/2024