

CAA Operational Assessment

Title of airspace change proposal	BVLoS UAS Ops in non-segregated airspace – Trial Part 1 Extension Request
Change sponsor	TRAX International Ltd.
Project no.	ACP-2020-82 – Extension to Trial Part 1 CAP2106A
SARG project leader	██████████ Technical Regulator
<i>Case study commencement date</i>	30 Jul 2021
<i>Case study report as at</i>	6 Sep 2021
<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 project leader’s efficient project management it may be useful that each question is also highlighted accordingly to illustrate what is:</p> <p>resolved Green not resolved Amber not compliant Red</p>	

Executive Summary

Consortium partners Trax International, uAvionix, Plane Finder and ANRA Technologies are working together with trial hosts Goodwood Aviation Innovation Centre and trial participants Skyports on a project that aims to prove a concept of safe Beyond Visual Line of Sights (BVLoS) Un-manned Aerial System (UAS) operations alongside conventional traffic in non-segregated airspace.

They (the Sponsors) requested a Temporary Danger Area (TDA) as part of an Airspace Trial as defined in CAP1616 in Jan 21 and the CAA Approved the Trial plan including the activation of TDA EG D097 on 26 Feb 21. The CAA highlighted to the Sponsors, during the assessment meeting (AM), that one of the conditions of activating the TDA would be an approved Operational Safety Case (OSC) for the Unmanned Air Systems (UAS) being used.

Following an assessment of the Sponsors final [Trial Plan Part 1](#) the CAA approved the activation of EG D097 subject to 5 conditions which can be found in the decision [CAP2106A](#), the first two conditions being:

- a) OSCs from the different drone operators, must be approved by the CAA, prior to activation of the TDA.
- b) Prior to activation of the TDA, the Air Traffic Service Inspector for Goodwood Aerodrome, must be have received and be satisfied that the Temporary Operating Instructions (TOIs) for the FISO, to support safe access into the TDA for emergency service aircraft and aircraft in distress, are acceptable.

The Sponsor has, at the time of writing, not yet fully met Condition (a) for one of its UAS.

As result of this and due to a combination of other factors the Sponsor is requesting an extension of the TDA activation period from 21st Oct 21 – 16 Dec 21 (the AIRAC AIC submission deadline for Sep 21 has passed).

Following the application for this Trial and associated TDA, another UAS Operator (Skylift UAV Ltd, ACP2021-002, EG D096) requested a TDA in close proximity to the Goodwood TDA (EG D097). The CAA confirmed that the impacts on other airspace users, by having both TDAs activated on the same day, would not be acceptable. As Goodwood made the initial request, they were given primacy and Skylift UAV Ltd were asked to work around the requirements of the Goodwood TDA. The Goodwood ACP and TDA will not have primacy from 24th Sep 21, when the current AIC expires.

1.	Justification for change and options analysis (operational/technical)	Status
1.1	Is the explanation of the proposed change clear and understood?	YES
	<p>The Sponsors require an extension to the activation period of TDA EG D097 in order to trial a concept to prove as being acceptably safe, which will enable them to trial BVLoS UAS operations in non-segregated airspace with other airspace users. The Sponsor states: <i>'Owing to the 4-month delay there is not enough time remaining to collect the data that was identified in the original trial plan, to fulfil the objectives of the first part of the trial, by 23rd September. This is because Auriga Aerospace, as the main UAV operator in the trial, is still to rectify some issues prior to obtaining their BVLOS OSC. We therefore only have Skyports available for BVLOS testing who are donating their time for free and we are limited in the amount of time they can dedicate during the next month. In addition, FISO rostering is difficult to juggle with so much uncertainty with the Auriga application. We are still working towards meeting the same objectives set out in Trial Plan V3 and therefore no change to the plan exists, other than the associated timelines and the dimensions and hours of activation.'</i></p>	
1.2	Are the reasons for the change stated and acceptable?	YES
	Yes, the activation of a TDA is an accepted way of mitigating the risk of non-participating aircraft interacting with a UAS operating BVLoS.	
1.3	Have all appropriate alternative options been considered, including the 'do nothing' option?	N/A
	The CAA accepts that currently, the accepted safest way to mitigate the risks associated with UAS BVLoS operations is to establish a TDA, in which the UAS must remain, while operating. Therefore, the request for the establishment of a TDA was the sponsor's only safe option, if they wished to prove their concept.	
1.4	Is the justification for the selection of the proposed option sound and acceptable?	YES
	Yes; it aligns with policy and provided that the Operational Safety Cases (OSCs) for the UAS operations alongside notified other (piloted) aircraft is accepted by the CAA RPAS Team, then establishing a TDA is the correct option for the extension to the trial part 1 being proposed. The Sponsor also states that, <i>'...it is now unlikely that we will be physically submitting a Trial Plan Part 2 to request BVLOS operations in a temporary TMZ.'</i> This is unfortunate; however, the Sponsor believes that the extension period is a worthwhile endeavour and that they will be able to gather valuable evidence in order to share findings with other similar projects.	

2.	Airspace description and operational arrangements	Status
2.1	Is the type of proposed airspace design clearly stated and understood?	YES
	<p>The use of a TDA is appropriate. The Sponsors are requesting a much smaller TDA (approximately half the size) which calls into question the original requirement; however, they state that the change is to remove the dependency on TDA EG D096 (Skylift UAV Ltd) and that the reduced size is also in response to lessons learned so far, <i>'...routes to the north of Goodwood contain all the most challenging characteristics required to test, develop and refine the concept...'</i></p> <p>The shape of the TDA will change during the extension period in order to reduce impacts on other airspace users and in order to mitigate the impacts/dependency on ACP 2021-002 which a BVLoS TDA from Portsmouth to the Isle of White. It is accepted that , in order to avoid flight over built up areas, build a suitable case for different BVLoS scenarios, allow interaction with participating manned aircraft above 400ft, ensure safe buffers in the event of 'avoidance', add the necessary contingency volumes and allow the UAS to be tested sufficiently along different routes, the reduced size requested is both acceptably safe and suitable for the sponsor to test their concept. The TDA Operating Authority will be Goodwood Aerodrome.</p>	
2.2	Are the hours of operation of the airspace and any seasonal variations stated and acceptable?	YES
	<p>Yes, activation of the TDA will not be permanent, during the extension period (21 Oct 21 – 16 Dec 21) it will take place for no more than a total of 40 days as this is the maximum number of weekdays available. The daily hours of activation will take place between 0630-0900 local Mon-Fri, with no PM activation, with actual dates and times of activation promulgated by NOTAM at least 24 hrs in advance. The TDA will be promulgated via an AIC that the sponsor has produced, providing the details of opening times and criteria. If the sponsor were to activate for the full 40 days, for 2.5 hours a day, this would total 100 hours.</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?	N/A
<p>The TDA is below and outside any CAS and there is no interaction with adjacent states or the high seas area. The lowest piece of airspace above is the EGLF Class E+ CTA which covers approximately half the proposed TDA, its base level being 5500ft QNH. The TDA, when activated, will also be adjacent (approx. 1.6miles away) to a section of the LTMA to the North with a base level of 4500ft QNH. However, the TDA will only be activated up to 2000ft AMSL. There is no requirement for any connectivity with adjacent structures.</p>		
2.4	Is the supporting statistical evidence relevant and acceptable?	N/A
<p>There was no requirement for any statistical evidence, such as traffic numbers.</p>		
2.5	Is the analysis of the impact of the traffic mix on complexity and workload of operations complete and satisfactory?	N/A
<p>The TDA will only be active while Goodwood Aerodrome is closed. The Goodwood FISO that will be in place during the hours of activation can only provide a danger area activity information service (DAAIS). The TDA will ensure that the risk of unknown aircraft interacting with the participating aircraft and UAS will be acceptably mitigated. There is no requirement therefore for an analysis of workload on the FISO or UAS operator for the Trial Part 1, however, this is something that will need to be considered for Part 2 (TMZ) if it goes ahead.</p>		
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>A condition of approval to extend the activation period of the TDA, as part of the Trial Plan Part 1 will be that the Sponsor agrees an LoA with Skylift UAV Ltd to ensure that they do not operate on the same day during the time period that the AICs overlap.</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
<p>The shape of the TDA has been amended from a circular shape to a slightly different shape in order to, according to the Sponsor:</p> <p><i>'This will further reduce the perceived impact on other airspace users regarding having to avoid EG D097 to the South and the concern from some that this compresses traffic into a funnel. There is no Controlled Airspace boundary to the South to generate compression and most users can also transit over the TDA however the proposed reduction in size, in our view, eliminates this perceived impact. Whilst we demonstrated that the existing EG D097 mitigates any impact on Bognor Regis Gliding Club to a suitable extent, the proposal here further reduces any perceived impact.'</i></p> <p>There are perceived impacts associated with having 2 TDAs activated at the same time with in close proximity to one another (ACP2021-002 – Portsmouth TDA).</p> <p>The Sponsor believes that by reducing the size of the current approved TDA, they are removing the dependency on the Portsmouth TDA.</p> <p>The CAA recognises the impacts of establishing a TDA, on other airspace users, and therefore asked that EG D097 (Goodwood ACP2020-82) deconflict with EG D096(A-D) (Portsmouth ACP2021-002) in that the CAA did not want both TDA's to be active on the same day. This was achieved through an LoA. Due to the application for EG D097 coming first, the CAA gave it primacy over EG D096 and meant that EG D096 could only be active when Goodwood (EG D097) agreed and was not active.</p> <p>This primacy would no longer apply for the trial extension. The current LoA will no longer apply and the CAA will expect the Sponsors of both ACPs to agree not to activate on the same day. In order to approve the extension, the Sponsor of EG D097 (Goodwood) will have to agree to another LoA with the sponsor of EG D096 (Skylift UAV Ltd) who will, having activated first following the end of the current agreed trial period for EG D097, have primacy from 24 Sep 21.</p>		
2.8	Is the evidence that the airspace design is compliant with ICAO SARPs, airspace design & FUA regulations, and Eurocontrol guidance satisfactory?	YES
The TDA will be notified through an approved AIC. The co-ordinates for the structure do not need to be CAP1054 compliant.		

2.9	Is the proposed airspace classification stated and justification for that classification acceptable?	YES
<p>No change in airspace classifications – the TDA facilitates hazardous activity taking place with sufficient notification to other airspace users and mitigates the risk of interaction with non-participating traffic. Any additional airspace structures, other than the TDA, proposed for the Trial Plan Part 2 will need additional assessment.</p>		
2.10	Within the constraints of safety and efficiency, does the airspace classification permit access to as many classes of user as practicable?	YES
<p>The amended TDA, for the extension period, adopts the lateral dimension of an approximate 5mile radius semi-circle to the north, centred on Goodwood Aerodrome, up to 2000ft AMSL. Entry into the TDA by non-participating traffic cannot to be authorised by the TDA authority except for aircraft in emergency or notified and agreed out of hours aircraft. So only participating aircraft will be operating within the TDA while it is active. Activation will be by NOTAM at least 24hrs before the requirement. The purpose of the TDA is to mitigate the risk to non-participating aircraft interacting with the hazardous activity taking place within the TDA.</p>		
2.11	Is there assurance, as far as practicable, against unauthorised incursions? (This is usually done through the classification and promulgation.)	YES
<p>The sponsors acknowledge that the risk of an undetected infringement exists, however this risk will be satisfactorily mitigated:</p> <p>The TDA will be promulgated through an AIC with specific TDA activations by NOTAM no later than H-24. The UAS Operators OSC shows that there is an adequate buffer in place in order to reduce the risk of an UAS excursion from the TDA. The availability of an EC surveillance system (ECSS) combined with having a Goodwood FISO in situ, offering a FIS (DAAIS), to help ensure the safest possible operating environment. The CAA has also given permission for the sponsor to utilise the Temporary Flight Restriction (TFR) field within standard FIS-B format to trial the notification of a temporarily activated volume of airspace, such as the TDA. The sponsors state that they have spoken with EGLF ATC and that, <i>'In addition, NATS Farnborough ATC have advised that, when the TDA is active they will have it marked on their radar video maps and they will notify us if they observe any infringements however, there is no responsibility on them to be actively monitoring the TDA.'</i> There is no LoA for this to occur, so it cannot be considered a mitigation to</p>		

	<p>infringement.</p> <p>The sponsor had intended to utilise a Flight Information Display (FID) as part of its trial in order to prove that this offered the FISO enhanced awareness of participating users in the airspace covered by the EC surveillance system: <i>'An infringement of the TDA may become apparent to the Goodwood FISO or it may be detected visually by the UAV operator or by means of the EC surveillance system'</i> (page 21 Trial Plan Part 1).</p> <p><i>'Goodwood FISOs will have a TOI for the TDA activity which will cover access for emergency procedures and CADMAC activity as well as for use of the FID. This will be sent to the ATS Inspector ahead of any TDA activity. Use of the FID will require specific CAA approval, separate to this trial plan'</i> (Page 27 Trial Plan Part 1)</p> <p>The decision not to provide the FISO with a FID is based on the safety case not being completed and submitted for review. The CAA accepts that the use of the FID was not a requirement of the approval, but that it was expected. The CAA have asked the Sponsor to be transparent about the impact(s) of not using the FID during the extension period (see extension request on the CAA Portal).</p>	
2.12	<p>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?</p>	NO
	<p>The TDA will not afford transits or access of other aircraft. Only notified and agreed movements or participating aircraft from Goodwood will be allowed into the TDA while it is active. There is a TOI agreed by local emergency aircraft and the Goodwood FISO in order to allow access and egress to the emergency services (condition of approval to activate the TDA). Aircraft in distress can also enter the TDA, following standard emergency procedures.</p>	
2.13	<p>Are appropriate arrangements for transiting aircraft in place in accordance with stated commitments?</p>	YES
	<p>The TDA will activated for a maximum of 2.5 hours a day subject to the acceptance of an LoA with Skylift UAV Ltd. The TDA operating authority (Goodwood Aerodrome) will activate the TDA for no longer than 40 days during the extension period for Part 1 of the Trial. While the TDA is active, non-participating transiting aircraft will have to avoid the TDA. The impacts of activating the TDA will be reduced due to the sponsors commitment of limiting the period of time of activation.</p> <p>The removal of the southern half of the current approved TDA will allow greater airspace access to Class G airspace during the extension period.</p>	

2.14	Are any airspace user group's requirements not met?	YES
	This TDA is intended to segregate Class G airspace in order to offer protection from the Hazardous activity taking place within the TDA, so GA will have to avoid it if they have not planned to go to Goodwood Aerodrome. However, this TDA should not have a significant impact on other airspace user groups as the sponsors will limit its activation during the trial extension period to 2.5 hours in the mornings and not activate on the same day as EG D096.	
2.15	Is any delegation of ATS justified and acceptable? (If yes, refer to Delegated ATS Procedure).	N/A
	N/A.	
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 TDA established for Part 1 extension is the size and dimensions requested by the Sponsor, following stakeholder feed-back and in order for the Sponsors to meet their objectives safely. The OSC's from the UAS operators provide further explanation on the airspace requirements (also see the extension request on the CAA Portal).	
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
	For Part 1 the OSCs from the UAS operators will provide justification for the required internal buffer, that is meant to mitigate the risk of UAS egress.	

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?	PARTIALLY
	The FISO at Goodwood can only provide a Danger Area Activity Information Service (DAAIS). The Sponsor has now (30 Jul 21) provided us with satisfactory TOIs for emergency service aircraft to operate in and out of the TDA. The Goodwood FISO cannot ensure separation within the TDA.	
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?	YES
	Transiting aircraft will either have to fly above or around the TDA. If a transit flies around the TDA to the south, but wishes to avoid flying over water, the revised structure for the TDA will reduce funnelling of traffic during the extension period. The risks associated by funnelling to the south are mitigated by the limited times that the TDA is active, the fact that it is only up to 2000ft AMSL.	
2.20	If the new structure lies close to another airspace structure or overlaps an associated airspace structure, have appropriate operating arrangements been agreed?	N/A
	N/A. There are no overlapping structures or contiguous airspace.	
2.21	Where terminal and en-route structures adjoin, is the effective integration of departure and arrival routes achieved?	N/A
	N/A	
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? 	N/A
	No change.	
	<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
	No change.	
	<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
	No change.	
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

	N/A	
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 co-ordinates?</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
	Yes the draft AIC provides a clear map and the required co-ordinates for the proposed NOTAM in order to activate the TDA.	
4.2	Do the charts clearly indicate the proposed airspace change?	YES
	Yes.	
4.3	Has the change sponsor identified AIP pages affected by the change proposal and provided a draft amendment?	YES
	A draft AIC has been submitted to promulgate the NOTAM for the TDA during the Trial Plan Part 1 extension period.	

4.4	Has the change sponsor completed the WGS84 spreadsheet and submitted to the CAA for approval?	N/A
	There is no requirement for the trial sponsor to meet ADQ compliance for an AIC.	
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
	The Sponsors have acknowledged that there will be some impact to transiting GA, while the TDA is activated. They state that transiting aircraft will have to avoid the TDA. This is an accepted consequence in order to reduce the risk of a MAC between the UAS and transiting GA aircraft. This TDA is intended to segregate Class G airspace in order to offer protection from the hazardous activity taking place within the TDA. This TDA, in isolation, will have minimal impact on other airspace user groups as the sponsor will limit its activation during the trial extension period to 2.5 hours Mon-Fri, 0630-0900 and not activate on the same days as EG D096.	
	b) Impact on VFR Routes.	N/A
	The sponsors do not state if there are any impacts on specified VFR routes. As described above, transiting aircraft will have to avoid the TDA while it is active.	

	c) Consequential effects on procedures and capacity, i.e. on SIDs, STARs, holds. Details of existing or planned routes and holds.	N/A
	N/A	
	d) Impact on airfields and other specific activities within or adjacent to the proposed airspace.	YES
	<p>The sponsors have engaged with a number of local airfields and gliding sites (inc. Chichester and District Model Aero Club, Bognor Regis Gliding Club and Hadfold Farm) and have not provided the CAA with any feed-back responses that would indicate that adjacent airfields were against the extension of the trial period.</p> <p>As the informal agreement with EGLF during this process has not been formalised, no assumptions can be made for the extension period. The interaction with EGLF operations was not considered a mitigation to infringements of the TDA in the original approval.</p> <p>The CAA asked the Sponsor to provide clarification on their interaction with EGLF and the Sponsor informed us that they still call EGLF the day before they intend to activate the TDA, so that the radar displays can show the TDA. The Sponsor confirmed that there is still no LoA between them and that EGLF did not respond to the request for feed-back regarding the TDA extension request.</p>	
	e) Any flight planning restrictions and/ or route requirements.	N/A
	N/A	
5.2	Does the change sponsor consultation material reflect the likely operational impact of the change?	YES
	<p>The information provided during the engagement made it clear when the TDA would be activated and why the trial sponsor was requesting the TDA to be the stated dimensions. However, as a result of engagement the proposal has changed, with the more detail being added to the v2(remained the same in v3, which only corrected the noise calculations) of the Trial Plan Part 1.</p>	

Case study conclusions – to be completed by SARG project leader	Yes/No
<p>Has the change sponsor met the SARG airspace change proposal requirements and airspace regulatory requirements above?</p>	<p>YES</p>
<p>The Sponsors have produced a trial plan extension request (2 iterations); however, initially they did not believe that they would have a dependency on TDA EG D096 (Skylift UAV Ltd) during the time period at which both TDAs overlapped. The Sponsor has, following a request from the CAA, produced a statement (forms part of the extension request) that explains how the current Trial Plan Part 1 scope has changed, such as not including the use of a FID for the FISO and the reasons for the delay in activation, this will need to be published on the CAA Portal. (Completed as part of the extension request published 1 Sep 21)</p> <p>The CAA, under Section 70(2) of the Transport Act 2000, has to consider the impacts on “the expeditious flow of air traffic”, in order “to satisfy the requirements of operators and owners of all classes of aircraft” and “to take account of the interests of any person (other than an operator or owner of an aircraft) in relation to the use of any particular airspace or the use of airspace generally”, as well as the other factors of S.70(2). Where there is a conflict of the factors/objectives under S.70(2), the CAA must ‘...apply those material factors in the manner it thinks is reasonable having regard to them as a whole (S.70(3) TA 2000).</p> <p>Unfortunately, due to a combination of factors, the Sponsors has been unable to activate the currently approved TDA (EG D097) for any significant period and as a result we have been unable to fully understand or observe through the possible feed-back that may have occurred, the empirical impact(s) of the activation of TDA EG D097. It is possible that EG D097 may have caused and still may cause, more or less of an impact than we considered, however, without any operational evidence, we have to reasonably consider the potential impacts at this juncture in order to reach a conclusion. The impacts of activating 2 different airspace structures, managed by different entities, in very close proximity on the same day has the potential to reduce safety, reduce the expeditious flow of air traffic and impact the interests of other operators/persons.</p> <p>The CAA approves the extension request with the conditions attached below.</p>	
RECOMMENDATIONS/CONDITIONS/PIR DATA REQUIREMENTS	
<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>	<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.

Are there any Condition(s) which the change sponsor must fulfil either before or after implementation (if approved)? If yes, please list them below.

YES

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.

The CAA needs to confirm acceptance of the conditions established for the Extension of Part 1 of the Trial Plan, from the Sponsors, before activation of the TDA during the extension period can proceed.

Extension Activation: 21 Oct 21 -16 Dec 21 (Mon-Fri 0630-0900 local)

The CAA approves the extended use of a Temporary Danger Area (TDA) to prove the safe integration of BVLoS UAS Operations with other conventional aircraft, scheduled to take place between 21 Oct 21 -16 Dec 21, subject to the following conditions:

1. A Letter of Agreement (LoA) with Skylift UAV Ltd (ACP2021-002, EG D096A-D) that ensures both TDAs will not be activated on the same day. (The CAA notes the Sponsor's comment in the first extension request document: 'In a scenario where CAA determine that a dependency still exists between ACP-2021-002 and ourselves during the requested Sep-Dec period where we would be unable to activate on the same day, we would draw our project to a close in September and progress no further.' – There would be an impact on other airspace users, especially in Class G Airspace, if both TDAs are activated on the same day.)
2. The sponsor must publish a statement, accepted by the CAA, that explains how the scope of the trial plan has changed and why (*can be explained in the Trial Plan Extension request – published 1 Sep 21*).

3. Engagement activities should continue with all impacted stakeholders and the wider GA community. Mitigations to safely reduce or eliminate the impact on transiting GA, should be pursued to the maximum extent possible, including careful consideration not to activate if notified of intense aerial activity close to the TDA.
4. The CAA's Airspace Technical Regulator, for this airspace change proposal, should be updated regularly on the progress of the above engagement activity, together with evidence of how the trial is progressing.
5. Should the Sponsors satisfy themselves that they have met the criteria for project success as stated on p29 of the trial plan part 1 (v2,v3) before the end of the TDA activation period, then they are to withdraw the AIC for the TDA immediately.
6. The Sponsor asserts that they are 'still working towards meeting the same objectives set out in Trial Plan v3...' The Sponsor also states that they will '...share our learning with industry.' The CAA expects the Sponsor to make best endeavours to meet these goals, however, if the Sponsor believes that they are no longer achievable, they are to inform the CAA immediately and suspend use of the TDA.
7. The AIC will need amending to reflect the conditions of approval including dependency on EG D096 and the FISO TOI will need amending to reflect the change in shape of the TDA Structure.

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.

N/A

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.

The sponsor has specified the aims of the trial (p29 of v2,v3), which includes elements of data capture and analysis in order to determine the effectiveness of the concept, UTM protocols and the impact on other airspace users as part of testing its concept in a TDA before the request to move to the use of a TMZ.

General summary

The Sponsors have developed a detailed trial plan (v1,v2,v3) for part 1 of the trial that requires the use of a TDA and stated in the extension request that they intend to pursue the same objectives during the extension period. However, they have published a statement that references Objective 6 of the Trial Plan, which was the use of a FID for the FISO. At time of writing this is not the case; the FID for the FISO will no longer form part of the trial plan part 1.

The Sponsors have had a 4-month delay to activating the TDA that was approved due to not having an approved Operating Safety Case (OSC) for their UAS and not having an agreed/satisfactory TOI for the FISO. The delays have not been caused by the CAA. The CAA did inform the Sponsor that there was a risk of delay, due to the conditions of the original approval, when it was submitted.

The Sponsors are requesting a smaller TDA, of a semi-circle 5 miles radius, up to 2000ft AMSL, located on the south coast which will impact some other airspace users; however, the sponsor has endeavoured to mitigate the impacts through engagement, restricting the times of activation and allowing safe access into Goodwood Aerodrome through prior notification, the use of an established ECSS and of a FISO offering a DAAIS. The activation of this TDA, in the absence of any other CAA approved mitigation, should be viewed as proportionate method of ensuring that the risks to non-participating aircraft associated while operating close to UASs, are kept acceptably low. This trial aims to safely prove a concept that will reduce the need for TDAs, for BVLoS UAS operations, in the future.

The Sponsor's request for a much smaller TDA (approximately half the size) calls into question the original requirement; however, they state that they change is to remove the dependency on TDA EG D096 (Skylift UAV Ltd) and as a result of testing that has shown the size of the TDA can be reduced while still working towards meeting the Trial Part 1 objectives.

The CAA accepts that the Sponsor has had mitigating circumstances, including staffing issues at Goodwood, CV-19 impacts and a fatal incident at Goodwood Aerodrome. However, the Sponsor was informed during the Assessment Meetings that they would need an approved TOI and OSC prior to activation of the TDA. Given the potential benefits of this Trial, should it succeed, the CAA approves the extension, subject to the conditions above.

The TDA extension approval, which forms a part of the Trial Part 1 has also been approved with conditions, therefore the risk of any delay to activating the TDA as a result of the conditions not being met, makes it highly unlikely that a further extension to the approved activation period will be granted. Any extension requests will follow the requirements of CAP1616 paras 321-323. Part 2 of the Trial will remain subject to a separate review and approval.

Comments and observations

The CAA highlighted to the Sponsors, during the Assessment Meetings, that the approval to activate the TDA would be subject to conditions, which may take time to meet, such as getting an approved OSC.

Operational assessment sign-off/ approvals	Name	Signature	Date
Operational assessment completed by: [REDACTED]	AR Technical Regulator	[REDACTED]	31 Aug 2021
Operational assessment approved by:	Manager Airspace Regulation	[REDACTED]	01 Sep 2021

Manager Airspace Regulation comments: I accept the rationale for a TDA in support of this trial and approve the extension period accordingly. Currently a TDA is the means by which the CAA segregates BVLOS UAS operations from other Class G users. TDA cannot however be the medium to long-term way of facilitating BVLOS UAS operations in Class G because of the constraints (albeit temporary) they place on other Class G users, they are unlikely to facilitate all the types of BVLOS operation the operators would like to undertake in Class G and, ultimately, the number of BVLOS TDA that can be approved or active at any one time will be self-limiting. I am supportive of this trial because it is ultimately about BVLOS getting out of TDAs in Class G.