

CAA Environmental Statement

Temporary and Trial Airspace Change Proposals

Title of airspace change proposal	NPAS BLVOS
Change sponsor	NPAS
Project reference	ACP-2024-035
Account Manager	

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 decision maker, highlight each question accordingly to illustrate what is:

resolved YES not resolved PARTIALLY not compliant NO

1. Introduction

The airspace change sponsor, National Police Air Service (NPAS), wants to trial the delivery of police air support with a Remotely Piloted Aircraft System (RPAS) operating alongside crewed aircraft. The launch site will be the Avonmouth Helipad.

While initially the scope of the trial included the establishment of a Temporary Danger Area (TDA) and a Temporary Reserved Area (TRA) and associated Transponder Mandatory Zone (TMZ) to the northwest of Bristol, following the initial submission the scope of the trial has been split into two parts. The first part (this ACP) involves the establishment of the TDA for 90 days and during night hours, while the second part will address the establishment of a TRA and TMZ for 90 days (in total 6 months).

This assessment is based on the submission V2.0 and addresses the first part of the trial, included in this ACP.

The proposed trial will have a total duration of 90 days and will be conducted in 2 stages, with progression to the next stage after having met specific

criteria. The plan is for the trial to begin on the 3rd July 2025. The duration of the first stage will be 20 days and the second 70 days. Both stages include nighttime operations only and each activation will have a duration up to 6 hours between 22:00 – 04:00 local time, Monday – Friday. On average, 5 flights per week are anticipated.

The TDA has been split into three sectors (Fig. 1) which can be activated individually or in combination. As the launching site is located within Sector 1, this sector will be activated as required for every activity. The proposed TDA sits within Class G airspace. The vertical limits of the TDA is from the surface to 1,400ft AMSL.

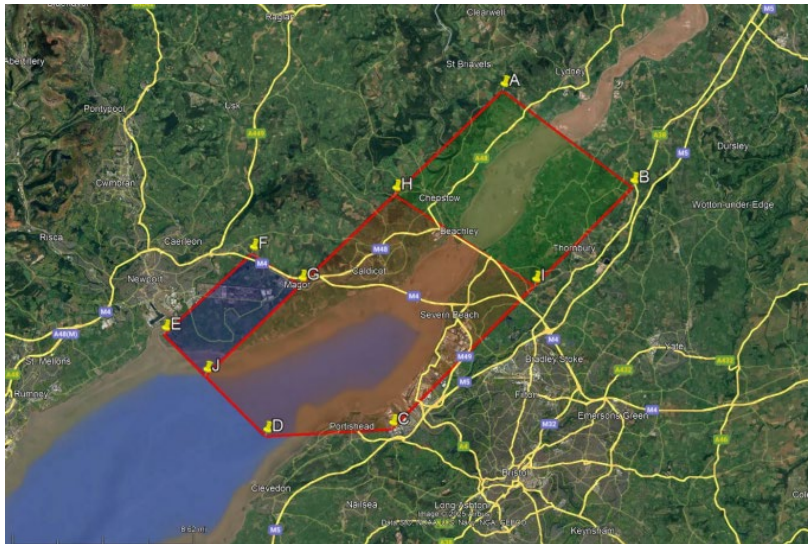


Fig. 1 Proposed TDA, sectorised (central-red, west-blue and north-green)

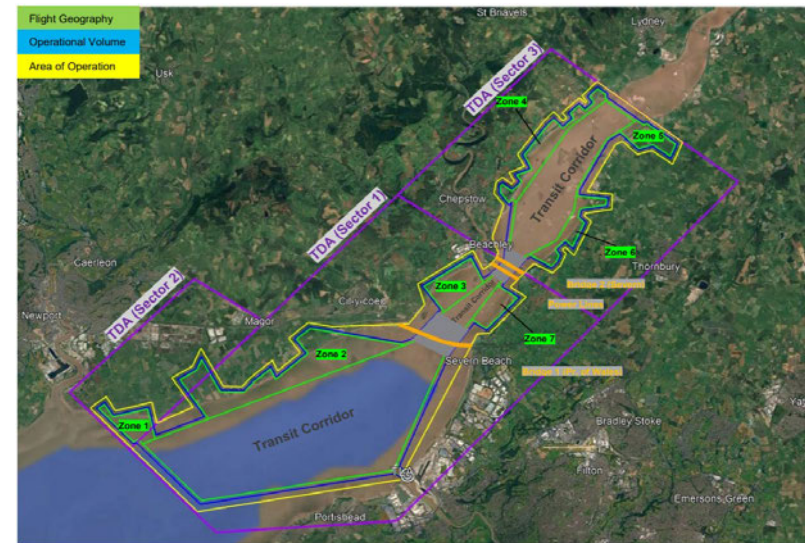


Fig 2. TDA sector outlines (purple) with Area of Operation outline (yellow), mission areas (green labels), transit corridor (grey label), obstruction areas (grey or orange shaded), and Take-off/Landing Area

Aircraft (crewed or uncrewed) wishing to enter the TDA, operating above 400ft AGL, must submit a request to NPAS at least 12 hours in advance and if approved Cardiff ATC will provide a Special Use Airspace Crossing Service (SUACS). Tactical entry is available for emergency services responding to an incident, or MOD aircraft responding to national security.

The aircraft will maintain an altitude of 900-1,050ft AMSL in transit over the Severn Estuary, and will perform the airborne task within the same altitude range before making an equivalent return trip.

This proposal is part of the CAP2540 CAA regulatory Sandbox and aims to demonstrate a concept on the future integration of Beyond Visual Line Of

Sight (BVLOS) operations.

Section 70 (2) of the Transport Act 2000 requires the CAA to take account of any guidance on environmental objectives given to it by the Secretary of State (SofS) when carrying out its air navigation functions, namely the Air Navigation Guidance 2017 (ANG 2017). For temporary changes to airspace design, ANG 2017 paragraph 2.13 requires that the CAA consider the sponsor's assessment of the noise impact before a decision on the proposal is made, unless the CAA is satisfied that the specific details of the proposal mean that this is not needed. In addition, ANG 2017 paragraph 2.3 states that in circumstances where a temporary airspace arrangement would affect the distribution of air traffic below 7,000 ft., where practicable, the communities that may be affected should be informed prior to the change being implemented. The sponsor is therefore also expected to consider the anticipated noise impacts as a result of any consequential changes on other airspace users (i.e., impacts below 7,000 ft.). CAP1616g and CAP1616i outline the environmental assessment requirements that sponsors of temporary ACPs are required to follow. According to CAP1616g para 4.12, besides noise, due to the short-term nature of temporary changes, there is no requirement for the sponsor to assess longer-term environmental impacts (i.e., CO2, local air quality, tranquillity, biodiversity). However, the change sponsor is required to undertake a Habitats Regulation Assessment (CAP1616g para 4.21).

2. Statement of Need		Yes/No
2.1	Does the statement of need include any environmental objectives, issues or opportunities to be addressed? (CAP 1616g paragraph 3.3)	Yes
	The statement of need refers to the potential benefits in terms of carbon footprint reduction through the integration of uncrewed aircraft that emit less CO2 compared to the current NPAS fleet.	

3. Current-Day Scenario		Yes/No
3.1	Has the change sponsor described the current-day scenario? (CAP 1616g paragraph 3.23)	Yes
	<p>The airspace change sponsor provides a description of the current day scenario. The description includes details of the current airspace and operation and airspace usage.</p> <p>Besides NPAS, the main airspace users include emergency services, military, gliders, model flyers, and General Aviation (GA). The change sponsor used Plane Finder data to determine the airspace usage; during 2024 the number of aircraft that passed through or in proximity of the proposed TRA in 2024 were 7252 (all dates and times). This corresponds to around 604 aircraft per month on average or around 20</p>	

	<p>aircraft per day on average assuming even distribution. June is recorded as the busiest month with around 34 aircraft per day on average. Considering the months, day and timeframe of the trial operations during nighttime operations 70.5% of the aircraft is observed up to 1,399ft AMSL while during daytime 40.6 % up to 1,199ft AMSL. The airspace change sponsor also provided the trajectories from surface to 3,000ft AMSL considering the busiest week for daytime flying in November 2024 to demonstrate the low volume of other airspace users. The airspace change sponsor did not provide any data for non-transponding aircraft.</p> <p>NPAS have one helicopter at their Almondsbury base and are licensed to fly as needed from this base 20/7 (07:00-03:00), operating at 600 to 1,200ft above ground level (AGL), approximately 23 times a week. Although the Almondsbury base is 20/7, NPAS does service the area 24/7 as requests for services are fulfilled by other 24/7 NPAS bases. The operating area includes the airspace covered by the proposed TRA.</p> <p>The proposed TRA sits within Class G airspace; Class G extends up to 4000ft AMSL with a number of controlled airspace volumes above (Cardiff CTA 8 -Class D, Cardiff CTA 6 - Class D, Bristol CTA 7 - Class D, Cotswold CTAs 3 and 12 - Class A) and in the vicinity (Bristol CTAs 1 and 2 – Class D, Bristol CTAs 3 and 4 – Class D, Bristol CTR – Class D) of the proposed TRA. There are also two restricted areas (R154 and R155 - decommissioned power stations) wholly or partially within the proposed TRA.</p>
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4. Noise Assessment		Yes/No
4.1	Has the change sponsor confirmed the effective period of the change? (<i>CAP 1616g paragraph 4.15</i>)	Yes
	<p>The trial is planned to commence on Thursday 3rd July 2025.</p> <p>The airspace change sponsor provided a high-level trial plan; there will be 2 stages, consisting of nighttime operations only. Each activation will have a duration up to 6 hours between 22:00 – 04:00 local time, Monday – Friday. On average, 5 flights per week are anticipated (see also Question 1).</p>	
4.2	Has the change sponsor provided a qualitative description of changes to traffic patterns, supported by operational diagrams illustrating the estimated overflight of participating aircraft and other aircraft consequentially impacted as a result of the airspace change proposal? (<i>CAP 1616g paragraph 4.15</i>)	Yes
	<p>The airspace change sponsor provided a qualitative description of current traffic patterns (see also Question 3.1) and information on airspace users that could be impacted by the trial. They also provide information on the rules and measures to mitigate the impact. They mention that airspace users can access the TDA following certain rules (see also Question 1). Any crewed and uncrewed aircraft intending to enter the TDA and operate above 400ft AGL, must submit a request to NPAS at least 12 hours in advance. Permission to enter must be</p>	

	requested from Cardiff ATC as the Airspace Authority. They also mention that a sectorisation approach will be followed to minimise the potential impact on other airspace users further; segmentation considered the needs of airspace users based on submitted information. Emergency services responding to an incident will be granted entry, via Cardiff ATC, to the TDA during any trial stage.	
4.3	<p>Has the change sponsor provided details of the frequency of flights, timings and typical altitudes of participating aircraft and other aircraft consequentially impacted as a result of the proposal?</p> <p>For airspace trials, information on the expected frequency (both absolute and as a percentage of total traffic during the airspace trial period) must be provided. (CAP 1616g paragraph 4.15)</p>	Yes
	<p>The airspace change sponsor provided details of the frequency of flights, timings and typical altitudes; details of the timings are included in Question 4.1. On average, 5 flights per week are anticipated. The duration of each TRA activation will be up to six hours. The vertical limits of the TDA are surface to 1,400ft above mean sea level (AMSL).</p> <p>The airspace change sponsor provided information on the main airspace users and anticipated traffic during comparable months to the airspace trial period; the monthly counts of aircraft within the TDA from July to December 2024, during nighttime and daytime, corresponds to approximately 0.3%-1.6% and 46%-53.3% respectively of the total traffic.</p>	
4.4	Has the change sponsor presented an assessment of noise impacts? (CAP 1616g paragraph 4.16 – 4.18)	Yes
	<p>The airspace change sponsor provided a qualitative assessment of the noise impacts with details on the RPAS specifications, the take-off and landing locations and sound level measurements.</p> <p>Based on the submitted information, the RPAS to be used in this trial is quieter than the traditional crewed helicopter currently used by NPAS and will be equipped with a noise dampener to reduce noise output further. The RPAS has a single rotor, and as a result no tonal correction is applied.</p> <p>The airspace change sponsor states that noise footprints are not available and provided an indication of the likely sound levels. When measured at a lateral distance of 25m (82ft) the RPAS with dampener peaked at 82dB L_{AFmax}. Considering a distance of 1,000ft, which will be a typical transit altitude, the sound level would be around 60dB L_{AFmax}. It is noted that the airspace change sponsor provided the sound level in L_{AFmax}, a fast-weighted noise metric that shows slightly higher values than L_{ASmax} for the same sound event, typically by around 1dB or less. Given that the RPAS will typically fly between 900 and 1,050 feet AMSL, noise levels may exceed 60dB when flying at the lower end of this altitude range.</p> <p>The airspace change sponsor presented the area of operations (Fig.2). The boundaries of this area are designed to largely avoid residential areas with the majority of flights taking place over water. Considering the likely noise levels, should the airspace change sponsor become</p>	

	<p>aware that they will overfly noise sensitive receptors below 1000ft they must inform them of the expected sound levels.</p> <p>Considering the reduced noise output of the RPAS, compared to the current aircraft and the area of operation, mostly over water, the anticipated noise impact is likely to be low. Nevertheless, the anticipated noise impact, as analysed in the submission document, does not account for any combined flights (helicopter and RPAS vehicle) that may result in an increase in sound levels.</p> <p>There are conditions the airspace change sponsor must fulfil – see Question 8.2.</p>
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5. Habitats Regulations Assessment		Yes/No
5.1	Has the change sponsor completed the habitats regulations assessment early screening criteria form and, where relevant, provided any additional assessments for habitats regulations assessment as specified by the CAA? (CAP 1616g paragraph 4.22)	Yes
	The airspace change sponsor undertook the Habitats Regulations Assessment – Early Screening Criteria exercise and identified European sites in the area of interest. They also engaged with Natural England to determine whether operations will impact the identified European sites and provided their rationale to demonstrate whether the airspace change proposal will likely have a significant effect on a European site.	
5.2	Is the airspace change proposal likely to have a significant effect - either alone or in combination with other plans or projects - on European sites? (CAP 1616g paragraph 4.21)	No
	<p>The airspace change sponsor provided their rationale as to whether the proposed trial will likely have a significant effect on the identified European sites in the area of interest.</p> <p>In the area of interest, the following protected sites are identified: Severn Estuary SPA, SAC and Ramsar, River Wye SAC, Wye Valley & Forest of Dean Bat Sites SAC and Wye Valley Woodlands SAC. Within the 18km radius but outside of the TRA boundary there are also Avon Gorge Woodlands SAC and North Somerset & Mendip Bats SAC.</p> <p>According to the submitted rationale and evidence, the proposed trial is not expected to result in changes to existing air traffic patterns for current NPAS operations. However, the introduction of the RPAS flights suggests an increase in the number of movements below 3,000ft, as those flights will be in addition to the ongoing NPAS crewed aircraft operations. The anticipated increase will be around 1 movement per day (around 5 movements per week). In addition, the area of interest currently experiences a low volume of traffic, with around 20 aircraft movements per day on average, as referenced in the submission (see Question 3.1). The number of current airspace users could be slightly higher considering the non-transponding aircraft.</p>	

	<p>The identified European sites appear to be already subject to overflight by NPAS and other airspace users in the current-day scenario. The airspace above these sites is Class G, uncontrolled airspace, with no restrictions on which aircraft can enter it, what equipment the aircraft must carry, the number of flights, and the altitude and routes taken by the aircraft. This implies that the activities of airspace users in the current day and the design option scenarios are not possible to predict with any certainty. To mitigate the impact on other airspace users measures such as access rules, segmentation of the TDA, planned timelines for operations, changes in the dimensions of the TDA to allow other aircraft to easily access or if not possible fly above or around the restricted area are mentioned in the submitted document (also see Questions 4.2 and 3.1).</p> <p>Each flight is expected to have a duration up to 6 hours, suggesting that the likely disturbance (if any) will be for a short period of time. The airspace change sponsor also states that the RPAS will only overfly the Severn Estuary and will operate at altitudes between 900 and 1,050 ft, consistent with the altitudes currently used by NPAS aircraft. Furthermore, the RPAS is anticipated to produce lower sound levels compared to the traditional crewed helicopters flying over the protected sites. Also, based on the airspace change sponsor's engagement with Natural England, it is unlikely for the proposed operations to affect the identified sites.</p> <p>Given that the overflight of the European sites of concern is likely to already be happening in the current day scenario, the number, duration and frequency of flights, the temporary nature of the activity and the duration of the trial, the establishment of the TDA suggests negligible impact in terms of changes in the areas overflown. In addition, considering the stated altitude, which will be above the altitude being used for current NPAS operations and the reduced noise output of the RPAS, compared to the current aircraft the proposed airspace change is unlikely to have a significant effect on the European sites in the zone of influence and therefore further assessments can be screened out.</p> <p>Considering the rationale and evidence submitted by the airspace change sponsor about the current-day-scenario, the number, period, and frequency of flights, and the temporary nature of the activity, the proposed mitigation measures as regards the sectorisation approach and the fact that aircraft can apply to access the TDA, resulting in no significant change to air traffic patterns, the ACP will likely have a negligible impact in terms of changes in the areas overflown.</p> <p>There are conditions the airspace change sponsor must fulfil as regards the altitude of the RPAS and any potential interaction with birds – see Question 8.2 and 8.3.</p>
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6. Engagement		Yes/No
6.1	Has the change sponsor used the noise assessment to identify the affected communities that must be engaged with or informed of the airspace change if the proposal is approved? (CAP 1616g paragraph 6.30)	No

The airspace change sponsor did not identify potentially affected communities. They state that the routes will be planned in advance to minimise the number of properties overflown and that the majority of flight will be conducted over water to further mitigate the impact. They also state that the noise emitted by the RPAS does not exceed 60dB and therefore they did not identify communities to inform. Nevertheless, as per Question 4.4 noise levels may exceed 60dB when flying below 1000ft or in the case of combined flights.

There is a condition the airspace change sponsor must fulfil; to identify and inform about the expected noise levels should they overfly sensitive noise receptors below 1000ft – see Question 8.2.

7. Conclusion

The airspace change sponsor provided an indication of the likely noise levels that would be experienced on the ground whilst the RPAS is at a cruising altitude of 1000ft; the submitted information refers to a measurement suggesting a mean maximum sound pressure level (fast-weighted) around 60dB. Noise levels may exceed 60dB when flying below 1000ft.

The proposed TDA complex is located over the land and the water. The boundaries of the area of operations are designed to largely avoid residential areas with most of the area over water. Considering the likely noise levels, should the airspace change sponsor become aware that they will overfly noise sensitive receptors below 1000ft they must inform them of the expected sound levels.

In addition, while the airspace change sponsor states that the RPAS flights will be conducted in addition to the day-to-day NPAS operations, no information is provided to reflect the potential noise impact of combined flights.

The airspace change sponsor provided information to demonstrate a low volume of traffic, potentially impacted by the establishment of the TDA. Considering the TDA design and set of rules, flights above 1,400ft (nighttime) will be outside the TDA, while flights below the threshold would be permitted to enter provided, they comply with the ruleset. Therefore, the consequential impact in terms of noise, due to the ACP, is likely low.

The airspace change sponsor completed the Habitats Regulation Assessment early screening criteria form, identifying the European sites in the area of interest and provided their rationale as to whether the proposed airspace change will likely have a significant impact on them. Also, the change sponsor engaged with Natural England as regards the potential effect of the proposed airspace change on the identified sites.

The proposed operations will be within class G uncontrolled airspace without affecting any published VFR or IFR routes. The area of interest, considering the submitted information, appears to be already overflown by NPAS crewed aircraft and other airspace users. Considering the rationale and evidence submitted by the airspace change sponsor about the current-day-scenario, the number, period, and frequency of flights, and the temporary nature of the activity, the proposed mitigation measures as regards the sectorisation approach and the fact that aircraft can fly within the TRA subject to certain rules, resulting in no significant change to air traffic patterns, the ACP will likely have a negligible impact in terms of changes in the areas overflown. In addition, taking into account the noise output of the RPAS and the stated cruising altitude as well as the anticipated number of movements, the temporary nature of the activity, and the fact that the Severn Estuary is overflown in the current day scenario, the proposed airspace

change is unlikely to have a significant effect on the European sites in the zone of influence and therefore further assessments can be screened out.
There are conditions the airspace change sponsor must fulfil before, during and after the implementation (if approved).

8. Recommendations/Conditions/Post Trial Report Data Requirements		Yes/No
8.1	<p>Are there any recommendations which the change sponsor should try to address either before or after implementation (if approved)? (CAP 1616g paragraph 7.4)</p> <p><i>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.</i></p>	N/A
	n/a	
8.2	<p>Are there any condition(s) which the change sponsor must fulfil either before or after implementation (if approved)? (CAP 1616g paragraph 7.4)</p> <p><i>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.</i></p>	Yes
	<ul style="list-style-type: none"> • If during the trial (if approved), and while planning the routes, the airspace change sponsor becomes aware that they will overfly noise sensitive receptors below 1000ft they must inform them about the expected noise levels. • During the trial (if approved), the airspace change sponsor should ensure that the RPAS operates at altitudes similar or higher than those typically used by NPAS crewed aircraft when flying over the protected sites. • During the trial (if approved), the change sponsor is required to collate, monitor, and report to the CAA on the level and contents of any complaints associated with the temporary airspace change throughout the period of operation. 	
8.3	<p>For airspace trials, are there any specific requirements in terms of the data to be collected by the change sponsor for the post-trial report (if approved)? (CAP 1616g paragraph 7.20)</p> <p><i>Post-trial report data requirements concern any specific data which the change sponsor should be instructed to collate post-implementation, if indeed the airspace trial is approved.</i></p>	Yes

	<ul style="list-style-type: none">Following the conclusion of the trial, the airspace change sponsor must provide a short report to the CAA capturing interactions or difficulties encountered with birds (if any) - (this should include nil returns).
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Environmental Statement Sign-off	Name	Signature	Date
Environmental assessment completed by Airspace Regulator (Environment)	[REDACTED]	[REDACTED]	20/05/2025
Environmental assessment approved by Manager Airspace Regulation (or alternative delegation of authority)	[REDACTED]	[REDACTED]	25/6/25