

QINETIQ



Spaceport-1 (SP-1) Airspace Change Consultation

Public Drop in Hosta Hall, North Uist 17th April 2024

Record of Key Airspace Related Questions

The above event was open from 1300 until 1930. A total of 22 individuals attended over the course of the day. A short PowerPoint presentation was provided throughout the day, a copy of which has been uploaded to the Citizen Space Platform.

Airspace Related Questions:

1. If planning was reviewed and an increase in launch numbers beyond the current 10 was approved would the airspace change process have to be reviewed or will the current Airspace Change Proposal (ACP) be adequate?

ANS: A new ACP is required where there is any change to the airspace design/volume or the activities that are notified as occurring within them; in principle the number of launches should be able to be increased without necessitating an ACP however, the Civil Aviation Authority (CAA) would have a view on this and would need to be notified accordingly and ultimately they would decide if ACP action was required.

2. The boundary of the new Danger Area covers a number of dwellings; why does this therefore not pose a risk to people living beneath the Danger Area?

ANS: Please see FAQs – In sum, the metrics used to calculate the risk to aviation are different to those ascertaining the risk to individuals/dwellings on the ground. The aviation risk considers a large number of people within a commercial airliner travelling at high speed. As the consequence is far higher, the parameters also have to be far higher. The risk to persons on the ground is considered as part of the licencing process for the Spaceport operator, who will need to demonstrate to the regulator (CAA Space Team) that there is no risk to third parties on the ground outside the SP-1 launch area/boundary. Moreover, the Launch Vehicle (LV) operator will also have to demonstrate to the regulator through modelling, evidence and safety assessments, that their LV will not pose a risk to 3rd parties on the ground.

3. What if the airspace is found to be of insufficient volume to contain a specific type of rocket?
ANS: *If the safety trace of the LV cannot be contained within the new proposed airspace then the LV will not be permitted to launch.*
4. How long will the airspace remain in place, is it time limited or forever?
ANS: *The airspace will only be put in place once approved by the CAA during Stage 5 of the ACP process and then there will be constant monitoring of the use of the airspace and data collected. Following a typical 12 month period of operation of the new airspace, the Sponsor is required to conduct a Post Implantation Review (Stage 7 of the ACP process). If it is discovered that unforeseen issues have arisen and/or the airspace is not meeting the requirements of the statement of need (SoN), then the CAA may ask for the airspace design to be reconfigured and if this still does not meet the objectives then the airspace may have to be reverted to its original status. Providing the airspace does meet the SoN and no new significant issues have arisen, then the airspace change will remain in place for as long as it is needed for the purpose of launching sub-orbital rockets.*
5. While considering the need of 'other airspace users' does the CAA include birds?
ANS: *While the CAA do not directly consider birds during the ACP process, they do, as part of this process, require environmental evidence that may include any potential impact on birds. For the SP-1 ACP, elements of the Environmental Impact Assessment (EIA) used during the planning process have been referenced/replicated to provide the necessary evidence to the CAA.*
6. Is there potential for an extension to the 3-hour window on the day, i.e. could 3 hours become 9 hours because of delays?
ANS: *Because of the potential impact on transatlantic air traffic, it is unlikely that an extension on the day will be granted (as airlines will have planned the day before to route through the area post activation). However, where the SP-1 airspace requirements do not impact on transatlantic air traffic, such as for a short range rocket launch using only a few of the 'inner D701 Danger Areas', then it may be possible to extend the airspace period on the day. This will be subject to agreement and approval by the necessary organisations and authorities. Where a launch is unsuccessful/delayed, for whatever reason, then a spare/contingency day will be planned for and normally used.*
7. Have we considered the weather and particularly, the wind at Scolpaig?
ANS: *Yes, although different areas of the islands have their own microclimate the Outer Hebrides wind issues are well understood by Ministry of Defence (MOD) Hebrides Range staff – wind limitations will be placed on all launches but these will vary significantly between LVs.*
8. The worst-case-scenario CO₂ emissions figure in the ACP documents is being read as the actual figure is this correct?
ANS: *This is an estimated, worst-case scenario figure where we have assumed that:*
- *All aircraft are the higher fuel burn type (Boeing 777)*
 - *The majority of launches are long range immature rockets that require the maximum number of D701 areas to be activated; and,*

- *That transatlantic civil air traffic levels are as for the busiest day of the year.*

It is highly anticipated that the actual figure following 12 month period of operation will be significantly less than that quoted. As there are so many variables, it is not possible to quote an exact figure, but we are confident it will not be worse than that quoted.

9. Will there be any impact on new Stornoway flight by 'Hebridean Air Services' (operated by Airtask).

ANS: The routes flown between Benbecula and Stornoway will not alter regardless of aircraft operator and we have already confirmed with Loganair that the Stornoway route will not be impacted by the SP-1 operation and activation of the new proposed airspace fillet. It is acknowledged and captured in the ACP reports that certain approaches to Benbecula airport could potentially be impacted by the subsequent activation of specific D701 areas however, procedures are already in place to mitigate and minimise any such impact. Furthermore, Hebridean Air Services (through Airtask) have been asked for comment on the ACP.

10. 'Who owns the airspace?'

ANS: Airspace is a national asset not owned by any one organisation; it is regulated by the CAA who in turn delegate different authorities to 'manage' the airspace accordingly to meet user's needs. In essence, airspace need/requirements are arbitrated by the CAA through the UKs Airspace Management Cell (AMC) which is a joint civil military airspace management organisation.

11. How do we coordinate with international airlines?

ANS: This is done through the International Civil Aviation Organisation (ICAO) sponsored North Atlantic Operators user group. The majority of airlines are represented, this may be through the International Aviation Transport Association (IATA) who work on their behalf.

12. How will SP-1 operations interact/deconflict with Shetland Space Centre activity?

ANS: It is anticipated that the airspace protocols and letters of agreement between spaceport operators, air navigation service providers and the UK AMC will define how deconfliction between different spaceports and MOD activity will be managed. These protocols are still to be designed and agreed at Governmental level.

13. Shetland only have 1 hour airspace closure for orbital launch – why is SP-1 so much 'worse' and requiring 3 hours.

ANS: With many years of experience launching similar type systems from the MOD Hebrides Range QinetiQ fully understands the challenges of achieving a successful launch. QinetiQ's familiarity with launching rockets enables the required time windows to be determined with more accuracy - we know from experience that many things can delay a launch (examples; a fishing boat in the range area; minor malfunction of the LV; and environmental issues such as wind speed and direction). We therefore are proposing a 3 hour window as this is more realistic, and our worst case scenario is based on this assumption.

Adopting a one hour window will inevitably reduce the 'apparent' impact the launch has on air traffic (and associated fuel burn CO2 emissions by a factor of 3) however, limiting a LV operator

to such a small time window will, in our view, place an unacceptable risk on the ability to launch. We therefore consider this unrealistic and advise against comparison due to the different approaches adopted by the respective ACP sponsors.

14. Does use of MoD D701 complex mean that SP1 is actually to be used for military / defence activity?

ANS: No, SP-1 activity is strictly a commercial operation.

15. We see more transatlantic flights crossing the area in the summer, so won't we disrupting more flights by launching in the summer?

ANS: Subject to launch licensing, it is anticipated that there will be more launches in the summer due mainly to the weather factor but also because there are fewer commercial flights over Scotland in the summer months than in winter months. Following a study of 12 months flight details (as captured in the Options Appraisal Phase II (FULL) report), it is evident that during a 3 day period in the summer, flights only route over Scotland on one day; the other two days they route south over southern UK and Ireland.

16. For SP-1 rocket launches will this necessitate closure of whole of D701?

ANS: No. Only those areas necessary to contain all hazards associated with rocket launch are activated; this could be a few as two or three for short range launches with the maximum or 8-10 anticipated for longer range rockets.

17. What is a 'fillet'?

ANS: The new proposed airspace volume between the existing Danger Areas D701 and D704 (over Benbecula airport) is being referred to as a 'fillet' of airspace as it fills the gap between the two existing Danger Areas thereby providing connectivity to this existing airspace structure.

18. Is there a body that takes a holistic view of space activity?

ANS: Yes, the UK government through the Department for Transport (Dft).

19. Why is space regulated in silos / by layers of regulation?

ANS: In the first instance planning is required and this has a very particular and complex process. Beyond this the CAA on behalf of the Dft, provides regulatory oversight and approval of the associated airspace change process. The Space section of the CAA regulates and inspects spaceports and LV operators as laid out by the Space Industry Act (SIA) 2018 and subsequent space regulations.

20. With regard to the number of launches per annum, could all 10 be launched in a day?

ANS: The number of launches is restricted to 10 per year. It is highly challenging to have more than one launch in a day, therefore, 10 launches in one day simply could not happen.

21. Will we be launching at night?

ANS: No.

22. What is the ACP timeline?

ANS: ACP timeline governed by CAA and ACP process. At the moment, and if remaining on track, the airspace should be in place by late April 2025. The first launches might not take place immediately due to a number of factors not least the licensing requirements for both Spaceport and LV operator.

There was a general consensus from the majority of attendees that they were comfortable with the airspace change process and the ACP was being handled well/thoroughly.

There were a number of other questions and discussion points that were not airspace related, these largely related to the planning process and were directed to the SP-1 Project Board representative.

