

Space Hub Sutherland Design Principles

Revised Environmental Design Principle for
Stakeholder Review



Highlands and Islands Enterprise
Iomairt na Gàidhealtachd 's nan Eilean

Space Hub Sutherland Airspace Change Proposal

Introduction

Highlands and Islands Enterprise (HIE) is very grateful to those stakeholders who have already engaged with this process and for the views provided by the various representative bodies and individuals. The responses we received helped us to develop a comprehensive list of potential Design Principles that reflect the comments made during our Focus Group meetings held in October and from responses to the questionnaires issued in September.

We submitted our Design Principles to the Civil Aviation Authority (CAA) for their assessment at a Gateway meeting held on 29th November 2019. However, the CAA felt that the Environmental Design Principle was not broad enough and requested additional environmental inputs to meet the CAP 1616 process. We therefore ask for your further assistance on this single revised Environmental Design Principle.

As a reminder, the Design Principles will be used as the qualitative framework against which different airspace design options will be considered. It is therefore important your views have been accurately captured.

Stakeholder Review Requirement

Please review the revised Environmental Design Principle on page 4 and comment in the table on page 5 in answer to the following statements:

- Do you agree the statement constitutes a Design Principle and, if you do not, please tell us why?
- Please rank this Design Principle according to your, or your organisation's priorities, with 'A' being the highest priority and 'D' being the lowest. If you feel this Design Principle is not applicable to you, please mark it as '0';
- Please add any amplifying comments you wish to include in the final box.

How to Respond

Please save the file that includes your response and attach it to an email to the following address:

spacehubsutherland@hient.co.uk

In addition to attachments in MS Word, we will accept .pdf, scanned, hand-written or email responses, as long as they are legible.

It is important that individual email responses clearly show your name and contact details; this will allow us to cross-refer to the emails we send out.

We will also accept legible postal responses to the following address within the timescales specified below:

Airspace Change Proposal
Space Hub Sutherland
Osprey Consulting Services Limited
Suite 10,
The Hub,
Fowler Avenue
Farnborough
GU14 7JP

Responses must reach us no later than 12.00 mid-day 13th January 2020.

Next Steps

Having evaluated your comments, the revised Environmental Design Principle will be added to the Design Principles already developed (shown in the table on page 6) and re-submitted to the CAA for a second DEFINE Gateway Assessment in January 2020.

If the proposal is successful in passing the CAA DEFINE Gateway, detailed airspace design work will continue. We would like to engage with you again at Stage 2 where detailed design options will be developed. HIE will ensure any views expressed through this and earlier engagement activity are also recorded to inform the full consultation report.

Revised Environmental Design Principle

The initial draft Environmental Design Principle stated:

HIE will be required to undertake an Environmental Assessment associated with the re-routing of aircraft to avoid Special Use Airspace.

In the first submission, the assumption was made the environmental impact of launches would be addressed in other regulatory activities, in particular, the future Spaceport and Launch Vehicle Operator licence applications. Therefore, the previous Environmental Design Principle only considered the impact on aviation emissions due to the dispersal of aircraft during launches.

However, in their Gateway Assessment, the CAA concluded the submission did not meet the environmental requirements in CAP 1616 Appendix B and the sponsor acknowledges the need for a more comprehensive assessment.

Many of the environmental impacts required by CAP 1616 may not be applicable to the SHS proposal, where activities will be very infrequent, but with a high level of noise for a very short duration and different impact metrics will be needed to assess noise, air quality and greenhouse gases. The sponsor will work with the CAA to identify and agree suitable metrics using assessments in support of the SHS Planning Application where appropriate.

Following guidance from the CAA, the sponsor also acknowledges the need to assess the environmental impact of launch vehicle stage drop zones, even if outside the boundary of UK responsibility in another state's Exclusive Economic Zone (EEZ).

In light of the discussion above, in addition to addressing the CO₂ emissions and fuel burn associated with the re-routing of other airspace users, the revised Design Principle captures the requirement to assess the environmental impact of activities both within the proposed airspace and in launch vehicle stage drop zones. The sponsor will work with the CAA to develop suitable metrics which meet the requirements in CAP 1616, using existing information wherever possible.

Proposed text of Revised Design Principle

Using metrics to be agreed with the CAA, an assessment of the environmental impact of both the proposed airspace and the airspace affected by it will be undertaken.

Your Response

Do you agree that the statement constitutes a Design Principle and, if you do not, please provide additional comments in the box below

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Please rank this Design Principle according to your, or your organisation's priorities, with 'A' being the highest priority and 'D' being the lowest

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Please add any amplifying comments in the box below

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SHS Prioritised Design Principles

Following earlier analysis, the prioritised list of SHS ACP Design Principles submitted to the CAA for the initial DEFINE Gateway is shown in the table below.

	Category	Priority	Design Principle
DP1	Safety	A	The safety of other airspace users is the paramount consideration in the design of the ACP.
DP2	Access	B	The volume of segregated SUA defined will be of the minimum dimensions necessary, activated for the minimum duration required, to ensure the safety of other airspace users whilst minimising its impact.
DP3	Access	C	SHS will only be for vertical launches to put small satellites into orbit.
DP4	ASM	B	The SHS ACP will comply with current and planned UK ASM policy including the application of FUA principles for the notification, activation and deactivation of segregated SUA.
DP5	Access	B	The SHS ACP will take into account the requirements for priority access to SHS including for example to aircraft in emergency, aircraft conducting SAR operations and to other priority flights.
DP6	Access	B	The airspace design will aim to minimise the re-routing of aircraft
DP7	ASM	B	The proposal will comply with internationally recognised norms for related spaceflight activities that transit the airspace of other states.
DP8	Access	C	The ACP may seek to legally prohibit overflight of some areas associated with the SHS operation through the application of byelaws or Statutory Instruments (SIs).
DP10	Regulation	C	The ACP will take into account other regulatory requirements associated with SHS and, where available and appropriate, reuse existing assessments.