

ACP-2021-090
SHETLAND SPACECENTRE LIMITED
TEMPORARY DANGER AREA AIRSPACE CHANGE PROPOSAL
AVIATION STAKEHOLDER ENGAGEMENT REPORT

Intentionally Blank

Document Controls

Document Reference

AVISU Reference	ACP_2021_090_Stakeholder_Engagement_Report_FINAL
-----------------	--

Version History

Version	Date	Status	Author	Comments
V1.0	27 Jun 22	Issued		
V1.1	27 Jun 22	Issued		
V2.0	22 Jul 22	Issued		

Document Quality Management

Role	Name	Email	Date Completed
Technical Author			19 Jul 22
Technical Reviewer			20 Jul 22
Quality Reviewer			21 Jul 22
Released by			22 Jul 22

Company Information

Company Name	AVISU Limited
Registered Address	Bridgepark Clashandorran Beauly Inverness-Shire IV4 7AN
Email	contact@avisu.co.uk
Company Reg No	SC425324
Tel	01463 872892

Contents

Document Controls	i
1. Introduction	1
2. Purpose	1
3. Objectives	1
4. Aviation Stakeholders	2
5. Engagement Approach.....	2
6. Summary of Aviation Stakeholder Engagement to Date	2
7. Stakeholder Engagement Activities - Next Steps	11
8. Summary	11

List of Appendices:

1. ACP-2021-090 List of Higher Priority Aviation Stakeholders.
2. Saxavord Introductory Email to All ACP-2021-090 Aviation Stakeholders.
3. Saxavord Follow-up Email to ACP-2021-090 Higher Priority Aviation Stakeholders.
4. Saxavord Follow-up Email to All ACP-2021-090 Aviation Stakeholders.
5. EUROCONTROL - Key Engagement Artefacts.
6. Denmark (Including Faroe Islands and Greenland) - Key Engagement Artefacts.
7. NATO (Air Command) - Key Engagement Artefacts.
8. MODUK - Key Engagement Artefacts.
9. NATS - Key Engagement Artefacts.
10. Other Stakeholders - Key Engagement Artefacts.

1. Introduction.

Shetland Space Centre Limited (trading and hereinafter referred to as “SaxaVord Spaceport” and “SaxaVord”) seeks to conduct vertical launch operations for orbital and sub-orbital activities from SaxaVord Spaceport on Lamba Ness, Unst. A suitable temporary airspace reservation of defined dimensions is required to ensure the safety of other airspace users from SaxaVord launch activities, and to ensure the safety of SaxaVord launch activities from other airspace users. The temporary airspace reservation would be activated for specified periods before, during and after nominated launch operations and would extend from surface to unlimited.

Accordingly, SaxaVord initiated an airspace change proposal (ACP) ([ACP-2021-090](#)) through the UK Civil Aviation Authority’s (CAA’s) ACP portal on 21st December 2021.

As part of the CAP1616 ACP process, SaxaVord considered and engaged relevant aviation and airspace user stakeholders to ascertain what impact(s) the temporary airspace might have on stakeholders’ operations.

Additionally, SaxaVord has engaged aviation stakeholders relating to a permanent ACP ([ACP-2017-079](#)); despite the similarities between the proposed launch operations, airspace and associated activities, engagement related to that application was treated as a separate activity to aviation stakeholder engagement associated with this application (ACP-2021-90). Furthermore, ACP-2021-090 is a separate application to [ACP-2021-058](#).

2. Purpose.

2.1. The purpose of this report is to demonstrate that SaxaVord (i.e. the ACP Sponsor) has followed due process for a temporary airspace change, as defined in CAP 1616¹ and CAA Policy for the Establishment of Permanent and Temporary Danger Areas², and that the appropriate level of stakeholder engagement has been undertaken.

2.2. The overarching principle(s) of SaxaVord’s engagement activity with aviation stakeholders sought to address positive and potentially negative impacts on targeted stakeholders by providing sufficient source materials and commentary to enable informed objective responses to be received that would inform SaxaVord’s airspace design.

2.3. SaxaVord’s engagement strategy was set out in its corresponding Shetland Space Centre Temporary Danger Area Airspace Change Proposal Aviation Stakeholder Strategy document, which was uploaded to the ACP portal on 2nd March 2022 and can be accessed through the following [link](#).

3. Objectives.

The objective of the stakeholder engagement process was to engage with aviation stakeholders (EUROCONTROL, aviation regulators, air navigation service providers, airspace users and aerodromes) on the potential operational impact(s) of the proposed airspace change on aviation stakeholders.

The objective of this report is to provide a summary of the recording, review and analyses associated with the aviation stakeholder engagement to date, acknowledging that stakeholder engagement is a continuum, *vice* a one-off activity.

1. CAP1616 (4th Ed, March 2021) Appendix C (*et al*) ([online](#)), accessed on 20 Jun 22.

2. 20200721 - CAA Policy for the Establishment of Permanent and Temporary Danger Areas ([online](#)), accessed 20 Jun 22.

4. Aviation Stakeholders.

4.1. Context.

The Application's aviation stakeholders (hereinafter referred to as "stakeholders") are those aviation (individuals and) organisations that could have a direct or indirect interest or influence on the Application and associated outcomes and activities. Where non-aviation stakeholders (i.e. national or international bodies and governments) are referred to, specific demarcation will be made.

It is acknowledged that stakeholders may be either internal or external to the Application. The aviation stakeholders to whom this report refers are external to the Applicant's organisation; as such, they are third-party stakeholders and comprise local, national, international and government and regulatory bodies that could exert power and/or influence over the Application and its outcomes.

4.2. Identified Stakeholders.

A full list of identified aviation stakeholders pertinent to the Application was articulated in SaxaVord's engagement strategy [document](#).

Early in the engagement process and following an initial meeting with MODUK staffs, NATO (Air Command) was identified as a relevant stakeholder. In addition, the UK Space Agency was added as a relevant stakeholder.

4.3. Stakeholder Prioritisation - Methodology Employed Rating/Ranking Stakeholders.

The Application's aviation stakeholders were prioritised employing the methodology outlined in the corresponding engagement strategy [document](#).

4.3.1. Focussing on Relevant Stakeholders.

SaxaVord focussed on those stakeholders most relevant to the Application when considering the stakeholders' activities in relation to the location and geography of the launch site at Unst.

4.3.2. Prioritising Relevant Stakeholders.

SaxaVord prioritised its stakeholders based on a numerical score, underpinned by an assessment of their respective "power" and "interest" in the Application, as defined in the engagement strategy [document](#). The cohort of higher priority stakeholders are listed at [Appendix 1](#).

5. Engagement Approach.

5.1. Stakeholder Engagement Strategy/Plan.

SaxaVord's approach to aviation stakeholder engagement is defined in its "Shetland Space Centre Temporary Danger Area Airspace Change Proposal Aviation Stakeholder Strategy" [document](#); the ensuing engagement and collation and management of response, records and artefacts was conducted as set out in that strategy.

6. Summary of Aviation Stakeholder Engagement to Date.

6.1. Introduction.

6.1.1. Stakeholder Engagement Materials.

A common set of engagement materials was created to inform all stakeholders of the proposed airspace change and was accompanied by a corresponding questionnaire to elicit responses. On 2nd March 2022, these artefacts were uploaded to the ACP portal and stakeholders were invited by email to view the materials and respond in the requested timeframe.

A copy of SaxaVord's introductory email to all stakeholders is at [Appendix 2](#). Subsequent bilateral emails were sent to priority stakeholders on 3rd March 2022; a copy of which is at [Appendix 3](#). A reminder email was sent to non-priority stakeholders on 28 March 2022, a copy of which is at [Appendix 4](#). All emails were blind-

copied to CAA; all emails to non-UK stakeholders were blind-copied to EUROCONTROL (Network Management (Space)).

All stakeholders received the same engagement materials; those identified as higher priority stakeholders received more focused engagement, as outlined in the Engagement Strategy [document](#).

6.1.2. Higher Priority Stakeholders

Higher priority stakeholders were engaged more proactively. Engagements comprised a preparatory engagement to establish two-way dialogue, discuss preferred methods of communication (i.e. Teams/Zoom/WebEx, email, telephone etc) and frequency and levels of engagement. This was then followed-up by appropriate, direct engagement meetings and discussions, which were recorded, minuted, agreed and distributed, accordingly.

Initially, SaxaVord engaged non-UK stakeholders individually. Subsequently, and with their respective approvals, collective follow-up engagement meetings were facilitated through the EUROCONTROL (Network Management Cell (Space)).

At stakeholder meetings, SaxaVord outlined that, subject to the Application's approval, the proposed airspace reservation, design and associated launch activities would be for a notified time within a specified 90-day period. SaxaVord also informed aviation stakeholders that a permanent ACP ([ACP-2017-079](#)) was being progressed and, despite the similarities between the proposed launch operations, airspace and associated activities, engagement(s) related to the permanent application would be treated as a separate activity to that of ACP-2021-90. Furthermore, SaxaVord reiterated that ACP-2021-090 was separate to [ACP-2021-058](#).

At all initial engagements, SaxaVord outlined the principles of their aviation stakeholder engagement approach based on earlier discussions pertaining to individual stakeholders' information requirements. SaxaVord offered an overview of the safety methodology being applied to the temporary airspace reservation design from both technical and operational perspectives and that the proposed TDA design sought to incorporate as much of the aerial activity as possible, while minimising disruption to the wider ATM network and airspace users.

SaxaVord advised international stakeholders of the former's intent to effect a further aeronautical "warning zone" and corresponding notification, where any risk to aviation could be demonstrated to be "as low as was reasonably practicable" (ALARP), in accordance with UK Space Industry Regulations guidance³. It was noted that the term "warning zone (or area)" was not used within the aeronautical and aviation community; thus, such a zone would be considered as a danger area by non-UK stakeholders and, as such, avoided.

SaxaVord outlined the principles of the aeronautical notification and coordination likely to underpin future detailed discussions between the relevant parties.

EUROCONTROL outlined the fundamental principle that all airspace users were entitled to free and equitable access to and use of airspace and that individual nation members states established their respective airspace utilisation plans for amalgamation into the wider EUROCONTROL management of the collective network and associated airspace.

A summary of the main points arising from the higher priority stakeholder engagement meetings is provided at Sections 6.2 and 6.3, below.

6.2. Summary of Stakeholder Response Influencing TDA Design.

There were no comments from any stakeholders regarding the proposed TDA airspace design; thus, there is no stakeholder-influenced design change.

3. UK Space Industry Regulations, Chapter 4, Regulation 47(4)(c).

6.3. Summary of Higher Priority Stakeholder Engagement and Response (to Date).

6.3.1. Airspace and Traffic Modelling. To support the assessment of the impact of launch activities on the airspace network (and vice versa), EUROCONTROL requested TDA dimensions data at least 3 AIRAC cycles in advance of the planned launch date(s). This timeframe was consistent with other aviation stakeholders' information requirements.

SaxaVord agreed to incorporate this request into launch planning activities and emergent notification and coordination procedures.

6.3.2. Proposed NOTAM Submission Timeline(s). All higher priority stakeholders had expressed subtly different NOTAM submission date requirements ahead of planned launch operations; at least 9 days' notice appeared to be the optimum NOTAM notification period.

SaxaVord undertook to identify a consistent NOTAM submission solution that sought to meet all parties' requirements.

6.3.3. Temporal Aspects/Considerations - Launch Windows. Whilst modelling could support the identification of suitable launch windows to minimise impact on the Network, many additional factors would influence launch times, not least of all a particular payload's orbital requirements. Consequently, for orbital and sub-orbital launch operations, launch times and windows could be of differing durations.

SaxaVord would continue to work with EUROCONTROL to minimise impact on the Network, where possible, and establish suitable notification/coordination procedures.

6.3.4. Potential Impact(s) on ANSPs' Resources and Revenues. The location and subsequent activation of the proposed Danger Area could prompt re-routes of air traffic; in turn, this could have an impact on ANSPs' resource allocations and potentially revenues.

SaxaVord reaffirmed its commitment to work with EUROCONTROL to identify suitable launch windows to minimise, where possible, the impact on the Network and its ANSPs, recognising that payload orbital requirements could be the over-riding requirement.

6.3.5. "Returning Items". It was stated that items returning to the surface were prohibited within the Icelandic Economic Exclusion Zone (EEZ); this, however, appeared at odds with the established memorandum of understanding between the governments of the UK and Iceland (Paragraph 2, sub-paragraphs 2 and 3).

SaxaVord undertook to ensure that this matter would be the subject of a bilateral discussions between SaxaVord and Icelandic stakeholders.

6.3.6. Network Future Planning Activities. EUROCONTROL outlined elements of its Network planning activities and offered to include SaxaVord, as a new entrant airspace user, in related communications and activities.

6.3.7. Requirement For Further MOUs or LOAs. There was consensus amongst the higher priority stakeholders, both national and international, that robust and tested notification and coordination procedures should continue to be developed and agreed, which could form memoranda of understand (MOUs) and/or letters of agreement (LOAs) at an operational level.

SaxaVord agreed that operational level dialogue would continue to define and develop the required understanding and agreement of notification and coordination processes and procedures between the relevant parties.

6.3.8. Continuing Engagement. All parties welcomed the opportunity to engage with SaxaVord both individually and collectively. All parties agreed that detailed engagement between SaxaVord and high-priority aviation stakeholders would continue as required, to ensure that - *inter alia* - the necessary notification and coordination procedures between the parties could continue to be developed and agreed.

Although the UK CAA's processes required defined start and end dates the ACP aviation stakeholder engagements, SaxaVord reiterated that engagement with priority stakeholders would be a continuum across the ACP cycle and into the operation.

6.4. Individual Higher Priority Stakeholders' Engagement Activities and Responses.

Initially, SaxaVord identified 19 higher priority national and international aviation stakeholder organisations.

CAA, although recognised as a higher priority stakeholder, was not engaged directly, *per se*, outside the CAP1616 process requirements. SaxaVord undertook to engage bilaterally with Lockheed Martin, outside the CAP1616 (as launch operator and launch vehicle manufacturer, respectively).

MODUK's Space Directorate confirmed MODUK (DAATM) as the lead MODUK stakeholder; on the suggestion of MODUK (DAATM), NATO Air Command was added as a stakeholder. Norwegian stakeholders confirmed Norway CAA as the lead Norwegian stakeholder. The Government of the Faroe Islands confirmed that Denmark's (CAA) would lead on matters pertaining to Danish overseas territorial interests. As such, 13 higher priority stakeholders were engaged proactively.

Of this cohort of 13, all email communication was confirmed as delivered and read; SaxaVord conducted bilateral introductory and follow-on engagements with 12 of the 13 stakeholders, as detailed below and in the corresponding Appendices.

Whilst engagement materials and email correspondence were sent⁴ to the identified stakeholders in the Government of Greenland, no responses were received; EUROCONTROL, however, confirmed that Greenland (and Faroe Islands) would be represented by the Danish CAA at a meeting between SaxaVord and international stakeholders on 23 May 2022.

6.4.1. EUROCONTROL.

Early in the engagement process, SaxaVord conducted an introductory meeting with EUROCONTROL (Network Management (Space)) to discuss the Application and its associated impact on the wider airspace network.

EUROCONTROL undertook to act as a liaison and coordination function on SaxaVord's behalf to arrange dialogue and future meetings between SaxaVord and the identified national and international stakeholders.

EUROCONTROL offered to support SaxaVord by modelling the proposed airspace design to offer an assessment of the impact on the network and identify suitable windows of opportunity for launch operations to minimise networks disruption. EUROCONTROL also offered to share some generic lessons that had been identified through its work with other space launch operators.

Whilst there was no direct engagement with EUROCONTROL as an individual stakeholder, *per se*, they were kept apprised of all bilateral engagements between SaxaVord and international stakeholders and facilitated and participated in SaxaVord's engagement with key national and international stakeholders.

EUROCONTROL facilitated and participated in a bilateral meeting between SaxaVord and MOD (Head of Defence Airspace and Air Traffic Management (DAATM)) on 18 March 2022 and, following SaxaVord's bilateral engagement meetings with international stakeholders, EUROCONTROL facilitated and participated in a meeting between SaxaVord and international stakeholders on 23 May 2022. The latter meeting was attended by nominated representatives from Denmark, Faroe Islands, Greenland, Iceland and Norway; the minutes of this meeting are included at [Appendix 5](#).

6.4.2. Norway.

Initially, SaxaVord engaged Norway's Royal Ministry of Trade, Industry and Fisheries, Research and Innovation Department as the nominated sole point of contact for Norway. Additionally, the following Norwegian entities:

4. Such correspondence was confirmed as being delivered and read.

Ministry of Environment, Ministry of Transport, Ministry of Norway Armed Forces, Ministry of Foreign Affairs, Norwegian CAA and AVINOR (Norway's ANSP).

Following email dialogue between Norway's Royal Ministry of Trade, Industry and Fisheries, Research and Innovation Department, it was confirmed that the Norwegian CAA were the supervisory authority for this matter and, as such, would act as the Norwegian [point of contact \(POC\)](#) for all subsequent engagement with SaxaVord. The Norwegian CAA would ensure the appropriate liaison and information exchange between the relevant Norwegian Royal Ministries and aviation stakeholders.

Norway CAA supported a EUROCONTROL-facilitated meeting, at which partner nations would be represented, to discuss the Application, airspace design and notification and coordination procedures.

Liaising with the UK Space Agency and the Norwegian CAA, SaxaVord was able to establish the Norwegian aeronautical information requirements associated with the Application.

CAA Norway and AVINOR attended the EUROCONTROL-facilitated meeting on 23 May 2022 [[Appendix 5](#)]; at this meeting, SaxaVord undertook to continue liaison with Norway CAA to ensure that the appropriate notification and coordination procedures are developed to satisfy Norwegian information requirements.

6.4.3. Iceland.

SaxaVord engaged Iceland's CAA (ICETRA) and ANSP (Isavia), separately. Both Icelandic parties welcomed the early engagement and supported a EUROCONTROL-facilitated meeting, at which partner nations would be represented, to discuss the Application, airspace design and notification and coordination procedures.

ICETRA and Isavia were keen to develop and establish routes to resolution that could comprise operational level MOU(s)/LOA(s) to regulate the resultant notification and operational procedures on the day.

Icelandic POCs stated that items returning to the surface were prohibited within the Icelandic Economic Exclusion Zone (EEZ). This statement, however, appeared at odds with the established memorandum of understanding between the governments of the UK and Iceland (Agreement Paragraph 2, Sub-paragraphs 2 and 3).

ICETRA and Isavia attended the EUROCONTROL-facilitated meeting on 23 May 2022 [[Appendix 5](#)]; at this meeting, SaxaVord undertook to ensure that this matter would be the subject of further bilateral discussions between SaxaVord and the relevant Icelandic stakeholders.

ICETRA expressed some concern over the location and subsequent activation of the proposed Danger Area and its impact on rerouted air traffic and - in turn - Isavia route-charge revenues.

ICETRA and Isavia attended the EUROCONTROL-facilitated meeting on 23 May 2022 [[Appendix 5](#)]; at this meeting, SaxaVord confirmed that, where possible, launch windows would be identified to ensure minimum disruption to the Network, recognising that payload orbital requirements could be the over-riding requirement.

6.4.4. Denmark.

SaxaVord engaged Danish Ministries of Environment, Transport and Armed Forces.

Ministries of Environment and Transport. Email delivery and read receipts were received for recipients in the Ministries of Environment and Transport, but no formal responses were received. The Danish ANSP (Naviar), however, attended the EUROCONTROL-facilitated meeting on 23 May 2022, representing Faroe Islands and Greenland [[Appendix 5](#)].

Ministry of Armed Forces. The Danish Ministry of Armed Forces confirmed on 18 March 2022 that the Danish Air Command anticipated "nil impact". SaxaVord responded on 24 March 2022 seeking clarification of the Danish Armed Forces' further information requirements associated with the Application; a subsequent

response was received on 4 April 2022 confirming no further information requirements other than any updates on significant changes to the proposed project timelines (i.e. AIRAC cycles). The Danish Armed Forces responses are at [Appendix 6](#).

SaxaVord undertook to continue to apprise the Danish Ministries of Environment, Transport and Armed Forces of future developments and discussions with international stakeholders pertinent to the Application.

6.4.5. Faroe Islands.

SaxaVord engaged the Government of the Faroe Islands' Ministry of Environment, Industry and Trade on 15 March 2022.

The Faroe Islands Government welcomed the early engagement and stated that they would defer to the Government of Denmark who would have primacy in related engagements and decision-making; however, the Faroe Islands Government welcomed the opportunity to remain involved and informed of the ensuing developments and discussions. In addition, they supported a EUROCONTROL-facilitated meeting, at which partner nations would be represented, to discuss the Application, airspace design and notification and coordination procedures.

SaxaVord undertook to apprise the Faroe Islands Government of future developments and discussions with international stakeholders pertinent to the Application.

On 12 May 22, EUROCONTROL confirmed that Faroe Islands (and Greenland) would be represented at the EUROCONTROL-facilitated meeting on 23 May 2022 by the Danish CAA [\[Appendix 5\]](#).

6.4.6. Greenland.

Greenland is an island country and part of the Kingdom of Denmark. Air traffic services over Greenland are provided by the Iceland ANSP (Isavia).

SaxaVord engaged the Ministry of Foreign Affairs of the Government of Greenland, for which email Delivery and Read Receipts were received; no formal response was received from the Greenland Ministry of Foreign Affairs.

On 12 May 22, EUROCONTROL confirmed that Greenland (and Faroe Islands) would be represented at the EUROCONTROL-facilitated meeting on 23 May 2022 by the Danish CAA [\[Appendix 5\]](#).

6.4.7. NATO Air Command.

Following engagement with UK's MOD staffs on 12 March 2022, SaxaVord engaged NATO Air Command, through the generic email addresses on the latter's website on 18 March 2022, copying UK MOD (DAATM) POCs. In the absence of either acknowledgement or response from NATO, SaxaVord sought the assistance of MODUK (DAATM) POCs; on 26 May 2022, a response was received from NATO, via MODUK.

NATO Combined Air Operations Centre (CAOC) Udem stated that NATO air policing operations are planned and conducted routinely cognisant of NOTAMs and other airspace restrictions and that there was no need for additional coordination procedures. At the tactical level, NATO partners' Control and Reporting Centres (CRCs) and Quick Reaction Alert (Intercept) (QRA(i)) aircrews are responsible for the flight safety aspects of a QRA(i) mission.

The NATO CAOC Udem response is at Appendix 7.

6.4.8. MODUK.

SaxaVord engaged MODUK early in the engagement process and conducted a series of introductory and exploratory meetings across the engagement cycle.

MODUK (Space Directorate) responded to SaxaVord on 11 Apr 2022 stating that DAATM would be the MODUK lead on the response to the application.

An MODUK response was received on 30 May 2022, a copy of which is provided at [Appendix 8](#).

UK Air Policing (78 Squadron (Swanwick) and 19 Squadron (Boulmer)). MOD stated that to ensure minimal impact to any potential UK and NATO air policing operations, robust communications procedures, including 'check-fire' arrangements will be required, to ensure that the security of the UK's sovereign airspace can be maintained at all times. NOTAM action to inform airspace users and ATS providers of the activation of the TDA will help to mitigate against unintentional incursions, but the unpredictability of air policing requirements will always be a factor to consider.

MOD requested that direct communications with the SaxaVord range operations are developed, agreed and tested, to ensure that messages can be passed without delay if an essential pause is required prior to SaxaVord launch operations. Without such procedures in place, there is a risk that an air security incident could not be dealt with effectively. In addition, MOD assumes that the Sponsor will also require 'check-fire' procedures to protect the integrity of the TDA against other airspace users, in non-air-policing situations.

Airspace Management. MOD stated that although it is understood that there is unlikely to be any impact on MOD's ability to access to Danger Areas in the vicinity of the proposed TDA, if there was to be a reduction in that ability then suitable coordination protocols will need to be agreed between ANSPs, MOD and the Sponsor, to minimise any impact on MOD operations. The MOD remains unsighted as to where commercial space launches sit within the national priorities list - understanding of any agreement with DfT/CAA, along with understanding the impact to Danger Area availability, will allow MOD to assess the impact of the TDA activation, as well as providing a framework for the Level 2 airspace management functions to be performed in accordance with extant policy.

Miscellaneous. In terms of the impact to MOD airspace users within the UK FIR, it is assessed that it would be minimal, as most of the structure is outside the FIR boundary. However, depending upon the time of year that the structure is to be activated, it may have the potential to impact Royal Navy activities, such as the maritime aspects of Ex JOINT WARRIOR. Greater clarity on the time and communication with MOD throughout the process will aid in the deconfliction of such activities.

SaxaVord acknowledged MODUK's observations and requirements and undertook to continue to work with MODUK to ensure that the requisite notification and coordination procedures were developed, tested and agreed; work was already in train between SaxaVord and 78 and 19 Squadrons.

6.4.9. UK NATS

SaxaVord engaged with NATS early in the process, conducting an introductory meeting on 9 March 2022 and number of subsequent engagements across the cycle.

NATS said that they fully support the division of the overall area into two (the "box" and the "wedge"), as they felt that this would minimise the potential disruption to other airspace users. NATS stated that they would be guided by the CAA's assessment of the airspace design given CAA's assessment of the launch vehicle's anticipated performance characteristics.

NATS opined that the location of the proposed TDA could re-route some traffic into UK airspace, which would routinely route through Icelandic airspace; as such, NATD believed that the active TDA could have operational and potentially resource impacts. NATS also stated that the TDA would extend into UK Free Route Airspace (FRA) and require a corresponding flight plan Buffer Zone (FBZ).

NATS stated that they would expect that the TDA would be cancelled tactically, as soon as all relevant launch material had returned to the surface. In addition, NATS would expect there to be operational engagement in advance of D-7 to refine the exact time window and anticipated implications of the launch.

NATS would expect such matters, including coordination with the relevant airspace management teams, to be covered in the Letter of Agreement between SaxaVord and NATS, which is under development.

NATS responded formally on 31 May 2022, a copy of which is at [Appendix 9](#).

SaxaVord acknowledged the observations and comments from NATS and undertook continue to engage with NATS to develop the emergent LOA agree the requisite notification and coordination procedures.

SaxaVord remains wholly cognisant of the need to establish and agree robust notification and coordination procedures that will satisfy NATS' and international aviation stakeholders' information requirements and will continue to engage with all relevant parties to ensure that their individual and collective requirements are identified and, where possible, accommodated.

6.4.10. UK Space Agency (UKSA)

The UKSA was not listed as a member of the NATMAC received by SaxaVord. In addition, during stakeholder assessment and prioritisation, the UKSA was not assessed as a higher priority stakeholder. SaxaVord, however, was keen to engage the UKSA as a higher priority stakeholder.

SaxaVord met with UKSA's International Engagement and Space Policy staffs across the engagement process; the UKSA was keen to remain apprised of SaxaVord's progress through the engagement process and wider ACP application, recognising that SaxaVord was covering new ground in international stakeholder engagement associated with the UK space industry's future operations.

The UKSA offered to support international stakeholder engagements, should SaxaVord require such support, and was able to share the UKSA's experiences of their engagement with Norwegian aviation stakeholders.

SaxaVord undertook to keep the UKSA apprised of the Application's progress relating to international stakeholder engagement.

6.4.11. UK CAA

Whilst the UK CAA can be seen to be a key stakeholder in this Application, they have not been engaged directly in the stakeholder engagement process, *per se*, outside the CAP1616 process requirements. Instead, CAA was sighted on all outbound correspondence and SaxaVord has engaged CAA at various stages of the wider ACP process.

6.4.12. Non-priority Stakeholders

"Communicate With". SaxaVord contacted 14 stakeholders who were determined to be outside the higher priority bracket, with whom SaxaVord sought to communicate and address any concerns that might arise regarding potential impact(s) that the Application, its airspace design and/or related activities could have on their respective operations.

All communications to this "Communicate With" cohort were delivered successfully; 8 read receipts were received and one stakeholder deleted the correspondence unread. Two formal responses were received and are summarised as follows:

Airtask Group Ltd. The Airtask Group offered that the design was appropriate and any impact on Airtask operations would be minimal; they further opined that they were comfortable with the proposal, given the clear economic benefits for the Islands.

Airtask raised an observation regarding fishing activity and Airtask's ongoing need to mount fisheries enforcement patrols on behalf of Marine Scotland. Airtask had consulted with Maritime Scotland, who were content with the Application, subject to agreeing suitable, notification and coordination procedures.

Babcock Offshore Helicopter Services. Babcock Offshore Helicopter Services Ltd offered no objections to or issues with the Application.

Copies of the Airtask and Babcock Offshore Helicopter Services responses are provided at [Appendix 10](#).

HIAL (Sumburgh) and Tingwall Airfields. Delivery Receipts for POCs at HIAL and Tingwall Airfield were received and a Read Receipt for Tingwall's POC was received. Neither organisation responded to the consultation request.

SaxaVord's qualitative assessment of general aviation (GA) activity in the vicinity of the site is that such activity is negligible; thus, any resultant impact of the proposed airspace change on local GA activity is also negligible. SaxaVord will, however, ensure that Sumburgh and Tingwall Airfields receive appropriate briefing materials prior to the implementation of the TDA.⁵

"Inform". SaxaVord contacted a further 22 stakeholders to inform them of the Application, its airspace design and related activities and, where appropriate, seek their comments. All communications to this "Inform" cohort were delivered successfully; 7 read receipts were received and 2 formal responses were received and are summarised as follows:

British Glider Association (BGA). The BGA opined that: "[a]s there is no gliding in the Shetlands and none is anticipated, we do not feel it is appropriate for us to comment on your ACP".

British Helicopter Association (BHA). The BHA stated that they had "...no objection to the proposal...".

Copies of the BGA and BHA responses are provided at [Appendix 10](#).

Although not contacted directly by SaxaVord, unsolicited responses were received from 3 additional stakeholders:

ABL Space Systems Ltd. ABL Space Systems Ltd (ABL) were not considered an external stakeholder in this process and, as such was not engaged by SaxaVord. ABL are providing the RS1 launch vehicle for future launch operations; as such, they should be viewed as stakeholder internal to SaxaVord. ABL's observations continue to be the subject of ongoing discussions with SaxaVord and, therefore, need not inform external stakeholder engagement process.

FlyLogix Ltd. Flylogix Ltd are conducting unmanned aerial vehicle operations to the south and west of the Shetland Islands; as such, they became aware of the Application. Flylogix confirmed that the Application did not conflict with their operations or airspace requirements, reporting that they had "...no comments or observations...".

Orbital Express Launch Ltd. Orbital Express Launch Ltd (Orbex) were not considered as a stakeholder in this process, as there is no corresponding ACP in train for their operations which might conflict with this Application; as such, they were not engaged by SaxaVord.

The pertinent comments and observations raised in the Orbex response are being actively progressed with the relevant ACP-2021-090 stakeholders.

Copies of the ABL, FlyLogix and Orbex responses are provided at [Appendix 10](#).

5. This satisfies the requirements of CAP1616 (4th Edition, March 2021), Stage 1A: Temporary Changes to the Notified Airspace Design, Paragraph 302 ([online](#)), accessed on 20 Jul 22.

7. Stakeholder Engagement Activities - Next Steps.

The stakeholder engagement to date has been extremely cordial and informative, however, SaxaVord understands fully that engagement with priority (and other) stakeholders must be a continuum across the ACP cycle and on into the operation.

The engagement thus far has been very useful in identifying that notification and coordination processes and procedures will be required between the relevant parties. As a result, SaxaVord has agreed to undertake a number of actions, including:

- Continuing liaison with EUROCONTROL to incorporate the 3 AIRAC cycle timeframe request into launch planning activities and emergent notification and coordination procedures.
- Continuing operational level dialogue with higher priority stakeholders to define and develop the required understanding and agreement of the notification and coordination processes and procedures which will culminate in the production of the required MOUs and/or LOAs.
- Continuing to update those stakeholders who are not directly involved in the development of the notification and coordination processes and procedures but have requested the opportunity to remain involved and informed of the ensuing developments and discussion.
- Ensuring that the matter of 'returning items' would be the subject of bilateral discussions between SaxaVord and Icelandic stakeholders.
- Prior to the implementation of the proposed airspace change, informing Sumburgh and Tingwall Airports of scheduled launch activities.
- Notwithstanding SaxaVord's qualitative assessment of negligible GA activity in the vicinity of the site, determining what potential redistribution of GA traffic below 7,000 feet might result from the proposed airspace change and ensure that any concomitant noise impact is assessed proportionately.

8. Summary.

SaxaVord seeks to conduct vertical launch operations for orbital and sub-orbital activities from SaxaVord Spaceport on Lamba Ness, Unst. To ensure the safety of these activities and other airspace users, a suitable temporary airspace reservation of defined dimensions would be required; accordingly, SaxaVord initiated this ACP ([ACP-2021-090](#)) on 21st December 2021.

As part of the CAP1616 process, SaxaVord was required to consider and engage relevant aviation and airspace user stakeholders to ascertain what impact(s), if any, the temporary airspace might have on stakeholders' operations. Stakeholders were provided with sufficient source materials and commentary to enable informed objective responses to be received, which, in turn, could inform the Application's airspace design. SaxaVord prioritised the Application's aviation stakeholders, using the methodology set out in its corresponding engagement strategy document and focussed on those stakeholders assessed as most relevant to the Application. The subsequent engagement activities took place between 2nd March 2022 and 1st June 2022 and conformed to the 12-week engagement period, the minimum required by CAP1616⁶. SaxaVord acknowledges that stakeholder engagement is a continuum. All engagement with the stakeholders, both national and international, was encouragingly proactive, cordial and informative.

Stakeholder engagement elicited no responses to prompt a review or change to the Application's proposed airspace design option. SaxaVord's qualitative assessment of GA activity in the vicinity of the site is that such activity is negligible; thus, any resultant impact of the proposed airspace change on local GA activity could also be negligible.

6. *id*, Stage 3: Consult, Paragraph 170 ([online](#)), accessed on 20 Jun 22.

Rightly, discussions with higher priority stakeholders centred around notification and communication procedures, and all relevant parties supported the development of operational level LOAs/MOUs to ensure the timely and efficient transfer of launch-related information.

All parties were keen to continue dialogue, and SaxaVord undertook to maintain close engagement with the higher priority stakeholders across the ACP cycle and on into the operation.

Appendices:

1. ACP-2021-090 List of Higher Priority Aviation Stakeholders.
2. Saxavord Introductory Email to All ACP-2021-090 Aviation Stakeholders.
3. Saxavord Follow-up Email to ACP-2021-090 Higher Priority Aviation Stakeholders.
4. Saxavord Follow-up Email to All ACP-2021-090 Aviation Stakeholders.
5. EUROCONTROL - Key Engagement Artefacts.
6. Denmark (Including Faroe Islands and Greenland) - Key Engagement Artefacts.
7. NATO (Air Command) - Key Engagement Artefacts.
8. MODUK - Key Engagement Artefacts.
9. NATS - Key Engagement Artefacts.
10. Other Stakeholders - Key Engagement Artefacts.

Appendix 1 to SaxaVord TDA ACP Aviation Stakeholder Report Dated 22nd July 2022

ACP-2021-090 LIST OF HIGHER PRIORITY AVIATION STAKEHOLDERS

Avn/ Non-Avn	Organisation	Role/Title	Name	Email Address
Aviation	CAA	Airspace Change Account Manager		
Aviation	Iceland ANSP (Isavia)	Manager ATS Procedures		
Aviation	Icelandic CAA (ICETRA)	Inspector ANS		
Aviation	NATS	Manager, ATM Portfolio - Design & Benefits		
Aviation	Norwegian ANSP (Avinor)			
Aviation	MOD - Defence Airspace and Air Traffic Management (DAATM)	SO1 ATM		
Aviation	EUROCONTROL	Network Management (Space)		
Aviation	Lockheed Martin (engaged direct by SaxaVord)			
Non-Aviation	Danish Ministry of Environment	Ocean Office/Mads Thelander, EU and International Office		
Aviation	Danish Ministry of Transport			
Aviation	Danish Armed Forces	Sagsbehandler Air Traffic Management Air C2 sektionen		
Non-Aviation	Govt of the Faroe Islands			
Non-Aviation	Ministry of Foreign Affairs of the Government of Greenland			
Aviation	Norway CAA	Senior Inspector ATM		
Non-Aviation	Norway - Royal Ministry of Trade, Industry and Fisheries, Research and Innovation Department			
Aviation	Norway Ministry of Transport			
Aviation	Norway Armed Forces			

Avn/ Non-Avn	Organisation	Role/Title	Name	Email Address
Non-Aviation	Norway Ministry of Foreign Affairs			
Aviation	NATO (Air Command)	Duty CAOC Controller, CAOC Udem		
Aviation	UK Space Agency	Director External Engagement International Space Flight Policy		

Table 1 - ACP-2021-090 Higher Priority Aviation Stakeholders

Appendix 2 to SaxaVord TDA ACP Aviation Stakeholder Report Dated 22nd July 2022

SAXAVORD INTRODUCTORY EMAIL TO ALL ACP-2021-090 AVIATION STAKEHOLDERS

Shetland Space Centre Limited : Temporary Airspace Reservation Airspace Change Proposal - Request for Stakeholder Engagement Response



Shetland Space Centre
To: Shetland Space Centre
Bcc:

Reply Reply All Forward

Wed 02/03/2022 19:48

You forwarded this message on 28/03/2022 21:50.

Dear Aviation Stakeholder,

Introduction. Shetland Space Centre Limited seeks to conduct vertical launch operations for orbital and sub-orbital activities from SaxaVord Spaceport on Lamba Ness, Unst, Shetland Islands.

Temporary Airspace Reservation. To enable planned launches, a suitable temporary airspace reservation of defined dimensions will be required to ensure the safety of other airspace users from Shetland Space Centre launch activities, and to ensure the safety of Shetland Space Centre launch activities from other airspace users. It is anticipated that the temporary airspace reservation would be activated for specified one-hour periods to cover nominated launch activities and would extend from surface to unlimited.

Aviation Stakeholder Engagement. Accordingly, and in accordance with the UK CAA's CAP1616, Shetland Space Centre has embarked upon a corresponding temporary airspace reservation airspace change proposal (ACP). This process requires Shetland Space Centre to engage relevant aviation and airspace user stakeholders and consider any potential impact that the temporary airspace change might have on stakeholders' respective operations.

Your organisation has been identified as one of the stakeholders that could be impacted by this proposed airspace change; consequently, Shetland Space Centre would welcome your response to inform Shetland Space Centre's airspace design activities.

Aviation stakeholder information and engagement materials and a corresponding response proforma can be found on the Shetland Space Centre's [ACP-2021-090](#) page of the UK CAA's Portal at the following links:

[Application Information & Engagement Materials](#)

[Stakeholder Response Proforma](#)

Timeline. To enable Shetland Space Centre to collate as many stakeholder responses as possible, your organisation's completed stakeholder response proforma is requested at your earliest convenience.

Please note that as agreed with the CAA, the Stakeholder Engagement process will end on Wednesday 1st June 2022. Completed questionnaires should be returned to the following email address: SAXAVORDTACPAPP@avisu.co.uk.

In anticipation, thank you for your engagement. Your response will provide valuable input to aid the development of the Application.

In the interim, please contact us if you have any further questions.

On Behalf of Shetland Space Centre Ltd for the purpose of CAP1616 TDA Application Engagement Process

<http://www.avisu.co.uk/>

<https://saxavord.com/>









Intentionally Blank

Appendix 3 to SaxaVord TDA ACP Aviation Stakeholder Report Dated 22nd July 2022

SAXAVORD FOLLOW-UP EMAIL TO ACP-2021-090 HIGHER PRIORITY AVIATION STAKEHOLDERS

Shetland Space Centre Limited : Temporary Airspace Reservation Airspace Change Proposal (UK CAA ACP-2021-090)- Request for Stakeholder ...

 Shetland Space Centre
To: [REDACTED]
Cc:  Shetland Space Centre
Bcc: [REDACTED]

 Reply  Reply All  Forward 

Thu 03/03/2022 20:40

Good evening,

The Shetland Space Centre Limited recently sent you an email to your organisation detailing a Temporary Airspace Reservation Airspace Change Proposal, with a request for your participation in the required stakeholder engagement process. As you will understand, the email was a generic request distributed to all identified as stakeholders likely to be impacted by this proposed airspace change.

Shetland Space Centre recognises, however, that [REDACTED] may have more than a generic interest in the proposed Temporary Airspace Reservation and associated activities therein and, as such, is a priority stakeholder in the ensuing engagement process. Consequently, Shetland Space Centre seeks more direct and focused engagement with your organisation to discuss the application in more detail and ensure that your views and comments are understood fully.

Shetland Space Centre is liaising closely with the Space Coordination personnel in the Network Management (NM) operation at EUROCONTROL, who have offered to facilitate the required coordination with non-UK stakeholders, such as yours, because they have broad experience in this cross-border coordination role.

Shetland Space Centre, therefore, suggests that we set up a preliminary call at your convenience to discuss the most appropriate method of coordination to determine your views to inform the Application and its airspace design and operation - either coordinating directly with your organisation, or through EUROCONTROL's NM Space Coordination personnel.

We look forward to hearing from the Government of the Faroe Islands in due course and to discussing these and related matters further.

As agreed with the UK CAA and in accordance with UK CAP1616, the stakeholder engagement process will conclude on Wednesday 1st June 2022.

On Behalf of Shetland Space Centre Ltd for the purpose of CAP1616 TDA Application Engagement Process

<http://www.avisu.co.uk/>

<https://saxavord.com/>



Intentionally Blank

Appendix 4 to SaxaVord TDA ACP Aviation Stakeholder Report Dated 22nd July 2022

SAXAVORD FOLLOW-UP EMAIL TO ALL ACP-2021-090 AVIATION STAKEHOLDERS

RE: Shetland Space Centre Limited : Temporary Airspace Reservation Airspace Change Proposal - Request for Stakeholder Engagement Response



Shetland Space Centre

To: Shetland Space Centre

Bcc:

Reply

Reply All

Forward

...

Mon 28/03/2022 15:21

This is the most recent version, but you made changes to another copy. [Click here to see the other versions.](#)

Dear Aviation Stakeholder,

On 2 March 2022, AVISU and Shetland Spacecentre sent your organisation the email below regarding their temporary airspace change proposal (ACP) and included links to information relating to the ACP and a corresponding questionnaire for stakeholders to complete and return. We are emailing you today to remind you that your engagement and response are still actively sought; moreover, stakeholder engagement and responses will be used to inform the subsequent airspace design and operation.

AVISU and Shetland Spacecentre would like to remind stakeholders that the Stakeholder Engagement process will end on Wednesday 1st June 2022; therefore, completed responses are requested by that date.

In anticipation, thank you for your engagement. Your response will provide valuable input to aid the development of the Application.

Again, please contact us if you have any further questions.

On Behalf of Shetland Space Centre Ltd for the purpose of CAP1616 TDA Application Engagement Process

<http://www.avisu.co.uk/><https://saxavord.com/>

From: Shetland Space Centre

Sent: 02 March 2022 19:48

To: Shetland Space Centre <saxavordtapp@avisu.co.uk>

Subject: Shetland Space Centre Limited : Temporary Airspace Reservation Airspace Change Proposal - Request for Stakeholder Engagement Response

Intentionally Blank

Appendix 5 to SaxaVord TDA ACP Aviation Stakeholder Report Dated 22nd July 2022

EUROCONTROL - KEY ENGAGEMENT ARTEFACTS

Minutes of a EUROCONTROL-facilitated Meeting Between SaxaVord and International Stakeholders.

20220523_ECTL_Saxa_AVISU_Intl_SH_Meeting

23 May 2022

See Distribution

RECORD OF A MEETING OF THE INTERNATIONAL STAKEHOLDERS PERTINENT TO THE SHETLAND SPACECENTRE (SAXAVORD SPACE PORT) TEMPORARY AIRSPACE RESERVATION PROPOSAL HELD VIA TEAMS AT 0900BST ON MONDAY 23RD MAY 2022

Present		Isavia
		SaxaVord
		Network Management (Planning), Eurocontrol
		SaxaVord
		Avinor
		Isavia
		Avinor
		ICETRA
		SaxaVord
		Network Management (Space), Eurocontrol
		Norwegian CAA
		Navair (representing Faroe Islands and Greenland)
		SaxaVord
		SaxaVord
		SaxaVord
		SaxaVord

Ser	Discussion	Action
1	Item 1 - Introductions. 1. The attendees introduced themselves and their respective roles. 2. SaxaVord outlined that, subject to the application's approval, the proposed airspace reservation, design and associated launch activities would be for a specified 90-day period.	
2	Item 2 - Location Information. 3. SaxaVord provided location information for the proposed launch activities.	
3	Item 3 - Engagement Principles. 4. SaxaVord outlined the principles of their aviation stakeholder engagement to date and some broad principles based on earlier discussions pertaining to individual stakeholders' information requirements. 5. Although the UK CAA's processes required defined start and end dates for the ACP aviation stakeholder processes, SaxaVord reiterated that engagement with priority stakeholders would be a continuum. 6. All agreed that further detailed engagement between SaxaVord and high-priority international aviation stakeholders would continue, to ensure that - <i>inter alia</i> - any necessary notification and coordination procedures between the parties could be agreed.	
4	Item 4 - General Safety Methodology. 7. SaxaVord offered an overview of the generic safety methodology.	
5	Item 5 - TDA Design Safety. 8. SaxaVord offered an overview of the safety methodology being applied to the temporary airspace reservation design.	

Ser	Discussion	Action
6	[Redacted]	
	12. This will be the subject of a bilateral discussion between SaxaVord and Icelandic stakeholders.	SaxaVord
	Item 6 - Notification & Coordination.	
	13. SaxaVord outlined the principles of the aeronautical notification and coordination likely to inform future detailed discussions between the parties.	
	14. Eurocontrol outlined the fundamental principle that all airspace users were entitled to free and equitable use of airspace and that individual nation members states established their respective airspace utilisation plans for amalgamation into the wider Eurocontrol management of the collective network and associated airspace.	
	15. Airspace and Traffic Modelling. To support the assessment of the impact of launch activities on the airspace network (and vice versa), Eurocontrol requested TDA dimensions data at least 3 AIRAC cycles in advance of the planned launch date(s). This timeframe was consistent with other aviation stakeholders' information requirements.	
7	16. SaxaVord to note and incorporate into launch planning activities.	SaxaVord
	17. Proposed NOTAM Submission Timeline(s). A number of stakeholders had expressed subtly different NOTAM submission date requirements ahead of planned launch operations; at least 9 days' notice appeared to be the optimum NOTAM notification period. SaxaVord undertook to identify a consistent NOTAM submission solution that satisfied all parties.	SaxaVord
	18. Temporal Aspects/Considerations - Launch Windows. Whilst modelling could support the identification of suitable launch windows to minimise impact on the network, many additional factors would influence launch times, not least of all a particular payload's orbital requirements. Consequently, for orbital and sub-orbital launch operations, launch times and launch windows could be of differing durations.	
	19. SaxaVord would work with Eurocontrol to minimise impact on the network, where possible, and establish a suitable notification/coordination procedure.	SaxaVord
	Item 7 - Other Business.	
	[Redacted]	
	21. Network Planning Activities. Eurocontrol outlined elements of its Network planning activities and offered to include SaxaVord, as a new entrant airspace user, in related communications and activities.	
	22. SaxaVord to note and monitor.	SaxaVord

<Signed Electronically>

[Redacted Signature]

On Behalf of Shetland Space Centre Ltd

Distribution:

Meeting Attendees*

Copy to:

File*

* Denotes electronic distribution.


Confirmation of Faroe Islands and Greenland Represented by Danish CAA at Meeting on 23 May 2022.

Greenland and Faroes



[↩ Reply](#) [↩ Reply All](#) [→ Forward](#) [📎](#) [⋮](#)

Thu 12/05/2022 07:34

 You replied to this message on 12/05/2022 09:19.

Gents ,

Greenland and Faroes are represented by the Danish CAA who will be there at the meeting .



EUROCONTROL
96 Rue de la Fusée, 1130 Brussels, Belgium

Follow us on:
[Web](#) | [Twitter](#) | [Facebook](#) | [Youtube](#) | [Flickr](#) | [LinkedIn](#)

Intentionally Blank

Appendix 6 to SaxaVord TDA ACP Aviation Stakeholder Report Dated 22nd July 2022

DENMARK (INCLUDING FAROE ISLANDS AND GREENLAND) - KEY ENGAGEMENT ARTEFACTS

Danish Armed Forces Responses.

reply; Shetland Space Centre Limited : Temporary Airspace Reservation Airspace Change Proposal (UK CAA ACP-2021-090)- Request for Stakeh...

**RELEASABLE TO INTERNET TRANSMISSION**

To
Shetland Space Centre

Response to
Request for Stakeholder Engagement

Thank you for reaching out to the Danish Air Force in this very interesting matter.
The Danish Air Command finds it interesting both due to the fact that space activities in general is interesting, but also because the proposed danger area influences three Flight Information Regions (FIR) and three different Exclusive Economic Zones (EEZ) to include the Faroe Islands EEZ.

However; after thorough review of your briefing- and stakeholder material, the Danish Air Command has found that the impact on Danish military operations by your planned operations pattern will be minimal.

As you underline in the stakeholder material, the proper notifications of activation will be available per NOTAM up to seven days in advance, and the expected activation period of 1 hour per activation will be manageable for the operations Danish Air Force may conduct inside the temporary danger area.

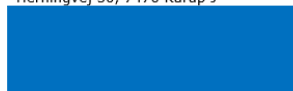
Therefore Danish Air Command has no further comments or considerations on your current plans for the Airspace Change Proposal set by Shetland Space Centre.

If you have any other considerations or concerns that you may want to discuss, please feel free to contact me directly.



Major
Sagsbehandler Air Traffic Management
Air C2 sektionen

FLYVERKOMMANDOEN
Herningvej 30, 7470 Karup J



www.forsvaret.dk

SV: Shetland Space Centre Limited : Temporary Airspace Reservation Airspace Change Proposal (UK CAA ACP-2021-090)- Request for Stakehol...



To: Shetland Space Centre
Cc: [Redacted]

Reply Reply All Forward ...

Mon 04/04/2022 12:22

RELEASABLE TO INTERNET TRANSMISSION

To Shetland Space Centre

I sincerely appreciate your effort to keep the stakeholders notified, however, the Danish Air Command sees no need for you to keep us officially apprised on the further evolution of the project, in relation to the engagements with named Governments.

In general we see the project as interesting, and we will appreciate to be notified on any major changes to the time line, i.e. if the AIRAC 02/2024 is missed, so we have some track on the progress of the project.

Please feel free to respond to me directly and to the fxo@mil.dk

Kind regards

Major
Staff Officer Air Traffic Management

Air Command Denmark
Herningvej 30, 7470 Karup J

www.forsvaret.dk

RELEASABLE TO INTERNET TRANSMISSION

Fra: Shetland Space Centre <saxavordtacpapp@avisu.co.uk>

Sendt: 24. marts 2022 12:52

Til: FKO-MYN Forsvarskommando <FKO-MYN@fiin.dk>

Cc: Shetland Space Centre <saxavordtacpapp@avisu.co.uk>; Joanna Djurhuus <joannad@uvmr.fo>

Emne: Shetland Space Centre Limited : Temporary Airspace Reservation Airspace Change Proposal (UK CAA ACP-2021-090)- Request for Stakeholder Engagement - DANISH ARMED FORCES

(FMI-KI besked: Denne mail kommer fra Internettet.)

Dear Major Fensgaard,

Thank you very much for your email response and your assessment of impact on Danish military operations associated with the proposed temporary danger area (TDA).

Whilst your assessment concludes that there will be minimal impact on Danish military operations, would you please confirm whether the Danish Armed Forces wishes to be kept apprised of Shetland Space Centre's ongoing engagement(s) with the Ministries of Transport and Environment and the Governments of the Faroe Islands and of Greenland.

In anticipation, very many thanks for your engagement.

Appendix 7 to SaxaVord TDA ACP Aviation Stakeholder Report Dated 22nd July 2022

NATO (AIR COMMAND) - KEY ENGAGEMENT ARTEFACTS

NATO (Air Command) Response.

FW: SAXAVORD TEMP ACP - AVISU/MOD(DAATM) - NATO (AIR COMD) COMMS

[Redacted]
mod.gov.uk>
Cc [Redacted]
You replied to this message on 26/05/2022 12:24.

Reply Reply All Forward [Icon] [Icon]
Thu 26/05/2022 10:17

I got a reply from our man at CAOC Uedem (see below). In short, they would not expect any specific liaison in advance of a launch as long as the NOTAM has all the details. I would suggest those details include a contact number for mission control in the event that the Air Policing community needs to talk to someone about crossing the TDA.

Regards,

[Redacted]
Wing Commander
SO1 ATM
Defence Airspace and Air Traffic Management (DAATM)
E1, Aviation House
Gatwick Airport South,
West Sussex, RH6 0YR

From: [Redacted] <[Redacted]@caocu.nato.int>
Sent: 23 May 2022 09:05
To: [Redacted] (DAATM-SO1 ATM)
Cc: [Redacted] <[Redacted]@mod.gov.uk> [Redacted] <[Redacted]@caocu.nato.int> [Redacted] (Air-11Gp-ABS Plans SO2) [Redacted]
Subject: RE: SAXAVORD TEMP ACP - AVISU/MOD(DAATM) - NATO (AIR COMD) COMMS

Classification: NATO UNCLASSIFIED

Sorry it's taken a while to get back to you; I was deployed and then off for a week.

I'm not sure this is anything that CAOC Uedem specifically need to be concerned about and I do not believe there is any need for special coordination processes over and above the normal NOTAM procedures. Air Policing is conducted routinely with NOTAMs and other airspace restrictions in mind. At the tactical level, the CRCs and QRA(i) aircrew are primarily responsible for the flight safety aspects of the mission. CAOC Uedem would expect to be made aware of the presence of a NOTAM that affects the mission, but that information would come from the CRC at the time as we do not routinely display any NOTAMs on ICC at our level. Of course, I am assuming that the airspace required for Avisu operations will be reasonably small, albeit from SFC-GOD.

Considering a scenario where an aircraft of interest approaches the UK and has potential to fly through the NOTAM, I would expect the following to occur:

- CAOC Uedem would have ordered QRA(i) action if warranted.
- The CRC would conduct tactical control of the mission including any orders to ensure safety of flight.
- The CRC may consider contacting the NOTAM operator if any infringement by the track of interest is likely.
- The CRC would discuss any effect on the mission with CAOC Uedem.

I have copied this into our Current Ops Dept to ensure there are no other considerations I have missed.

Still happy to chat if that would be useful.

Kind regards,



[Redacted]
Duty Controller
Wg Cdr, UK Royal Air Force
Static Air Defence Centre, CAOC UEDM

[Redacted]
CAOC UE CG/IKM
BLDG 20 Room F34
Mühlenstraße 89
47589 Uedem, Germany
<https://ac.nato.int/about/caoc/uedem>

Intentionally Blank

Appendix 8 to SaxaVord TDA ACP Aviation Stakeholder Report Dated 22nd July 2022

MODUK - KEY ENGAGEMENT ARTEFACTS

MODUK Response.

OFFICIAL



Defence Airspace and Air Traffic
Management (DAATM)

Email: DAATM-
AirspaceConsultation@mod.gov.uk

20 May 2022

Shetland Spacecentre Ltd
Site Office, SaxaVord Resort
Haroldswick
Unst
Shetland
ZE2 9TJ

Dear Saxavord Spaceport,

MOD RESPONSE TO ACP-2021-090

Please accept this letter as the MOD response to ACP-2021-090. The MOD would like to thank Avisu and Saxavord Spaceport for their engagement and the information that has been provided. This response contains details regarding how the proposed airspace could impact MOD activities and what can be done to address them. The MOD understands the requirement for the ACP and are willing to actively discuss how to resolve any concerns through implementation of appropriate procedures and activation protocols.

UK Space Operations Centre

As your proposal deals with rocket launching, as well as liaison through the DSA, from an operational perspective, engagement with the UK Space Operations Centre (UK SpOC) will need to be undertaken for the following reasons. The UK SpOC is responsible for monitoring and reporting of all UK space launch activities. The UK SpOC requires information on numerous elements of a launch and subsequent activity, including but not limited to; notification of upcoming launches, launch area, drop and abort zones, mission profiles, tracking data, frequencies and understanding go/no go criteria. This information will be used to enable the UK SpOC to Detect, Track, Characterise and Report (DTCR) UK space launches.

Air Policing (78Sqn and 19Sqn)

To ensure minimal impact to any potential UK and NATO Air Policing operations, robust communications procedures, including 'check-fire' arrangements will be required, to ensure air security can be maintained. MOD request that direct communications with the operator are arranged, so that messages can be passed if an essential pause is required prior to launch. Without these procedures in place, there is a risk that an air security incident could not be effectively dealt with. NOTAM action to inform airspace users and ATS providers of the TDA will help to mitigate against incursions, but the unpredictability of air policing requirements will always be a factor to consider. It is also assumed that the Sponsor will also require 'check-fire' procedures to protect the integrity of the TDA against other airspace users, in non air-policing situations.

Airspace Management

Although it is understood that there is unlikely to be any impact to the MOD access to Danger Areas as a result of a TDA, if there was to be a reduction in their availability then activation protocols will need to be agreed between Civil ANSPs, MOD and the Sponsor, to minimise the impact to MOD activities. The MOD remains unsighted as to where commercial space launches sit within the

OFFICIAL

Page 1 of 2

OFFICIAL

national priorities list – understanding of any agreement with DfT/CAA, along with understanding the impact to Danger Area availability, will allow MOD to assess the impact of the TDA activation, as well as providing a framework for the level 2 airspace management functions to be performed in accordance with extant policy.

Miscellaneous

In terms of the impact to MOD airspace users within the UK FIR it is assessed that it would be minimal, as the majority of the structure is outside the FIR boundary. However, depending upon the time of year that the structure is to be activated, it may have the potential to impact on Royal Navy activities, such as the maritime aspects of Ex JOINT WARRIOR. Greater clarity on the time and communication with MOD throughout the process will aid in the deconfliction of such activities.

The MOD wishes to thank Avisu and Saxavord Spaceport for their forward-leaning engagement and would like to remain in communications with them throughout the ACP process.

Yours sincerely,

<electronically signed>



DAATM SO2 Airspace Plans

OFFICIAL

Page 2 of 2

Appendix 9 to SaxaVord TDA ACP Aviation Stakeholder Report Dated 22nd July 2022

NATS - KEY ENGAGEMENT ARTEFACTS

NATS Response.



PROTECT
(When Either Wholly or Partly Completed)



STAKEHOLDER ENGAGEMENT RESPONSE PROFORMA

Shetland Space Centre Limited Vertical Launch Temporary Airspace Reservation

Airspace change ID: ACP-2021-090

Representative Organisation: NATS

Introduction

Shetland Space Centre Limited seeks to conduct vertical launch operations for orbital and sub-orbital activities from SaxaVord Spaceport on Lamba Ness, Unst, Shetland Islands.

A suitable temporary airspace reservation of defined dimensions will be required to ensure the safety of other airspace users from Shetland Space Centre launch activities, and to ensure the safety of Shetland Space Centre launch activities from other airspace users. It is anticipated that the temporary airspace reservation would be activated for specified periods before, during and after nominated launch activities and would extend from surface to unlimited.

Shetland Space Centre is, therefore, seeking stakeholders' opinions and comments to inform Shetland Space Centre airspace design activities to support the corresponding temporary airspace reservation ACP application. In addition, Shetland Space Centre's application for airspace change can be viewed on the Civil Aviation Authority's ([ACP-2021-090](#))

Responding to the Survey

This proforma features questions targeted at a range of aviation and non-aviation stakeholders. Please reply to all questions that you feel are relevant to your organisation.

Completed questionnaires should be returned to the following email address SAXAVORDTACPAPP@avisu.co.uk.

To enable Shetland Space Centre to collate as many stakeholder responses as possible, responses are requested by no later than 1700GMT Tuesday 31st May 2022.

Response Proforma

1. The design of the airspace is appropriate to the need described and to provide a safe environment for all airspace users.		
Your Response	Agree *	Disagree *
Additional Comments (As Required):		
2. What issues or constraints due to local general aviation operations might you believe would have an impact on the design of the Application.		
Your Response	Agree *	Disagree *
Additional Comments (As Required):		

* Delete as appropriate

3. Please provide details of any constraints the introduction of the Application could have on gliding, microlight flying, hang-gliding, paragliding and model flying.

Your Comments (As Required):

NATS has no comments to make on this topic.

4. Please advise of any other issues or constraints you feel the Applicant should consider when designing the TDA.

Your Comments (As Required):



* Delete as appropriate



PROTECT
(When Either Wholly or Partly Completed)



Thank you for your engagement. Your response will provide valuable input to aid the development of the Application.

All completed forms must be retained as evidence of the Applicant's engagement with stakeholders and other interested parties. Personal Data supplied by respondents will be retained confidentially and managed under the principles of the UK Data Protection Act (DPA) (2018) and the UK General Data Protection Regulation.

Signed	
INITIALS AND SURNAME	
Role/Position	Manager ATM Portfolio, Design & Benefits
Organisation	NATS
Email Address	
Telephone No	
Date	31/05/22

* Delete as appropriate

V1.1 FINAL 2 Mar 22

PROTECT
(When Either Wholly or Partly Completed)

Page | 4 of 4

Appendix 10 to SaxaVord TDA ACP Aviation Stakeholder Report Dated 22nd July 2022

OTHER STAKEHOLDERS - KEY ENGAGEMENT ARTEFACTS

Airtask Group Ltd Response.

Stakeholder Engagement Proposal ACP-2021-090 - Airtask Group Response

To: Shetland Space Centre

[Reply](#)
[Reply All](#)
[Forward](#)
...

Mon 30/05/2022 11:08

Follow up. Start by 25 June 2022. Due by 25 June 2022.

Morning,

I have been attempting to respond using the published proforma, but the website doesn't seem to be playing ball this morning. Therefore please accept this email as the consolidated response from Airtask Group.

Firstly by way of introduction, Airtask Group has a strong interest in the area in question due to the following commercial activities:

1. Commercial Air Transport passenger services from Lerwick to Foul and Fair Isle with BN2 Islander aircraft on behalf of Shetland Island Council. In addition we operate charter services throughout the islands.
2. Fishery Patrol activities with Cessna F406 aircraft on behalf of Marine Scotland. We operate daily patrols through Scottish waters, and flights frequently occur off the Shetlands.

We will be commenting on impact on our commercial activities only in this response, and will not be commenting on broader aspects of recreational aviation etc. Response to the questions as provided in the proforma:

1. **Airspace Design.** This appears appropriate for the need – with the caveat that we are not experts in space launch safety requirements.
2. **Issue and Constraints on local GA.** Comments confined to Airtask Commercial Air Transport services. The impact on our scheduled passenger services will be minimal. There may be impact on charter services but provided a pragmatic and reasonable approach is taken to TDA activation (see 4. below) we are comfortable with the proposal, given the clear economic benefits for the islands.
3. No comment.
4. **Other Issues:** the Applicant should be aware that fishing activity occurs within the proposed TDA area, and that there is an ongoing need to mount fisheries enforcement patrols on behalf of Marine Scotland. We have consulted with MS, who are content subject to the following:
 - 24 hours notice is provided of planned airspace closure, as discussed in other correspondence.
 - The closure is for the minimum required window; in other correspondence a period of 4-6 hours has been discussed. This would be acceptable.
 - If the airspace is closed for significantly longer periods this could be an incitement for illegal fishing activities to take place within the restricted areas – which in turn would increase the risk to those fishing vessels from launch debris, and potentially have impact on the launch safety cases due to the higher density of surface vessels in the area. It is therefore in everybody's interest that airspace closures are carefully managed to be as short as possible.

In addition, from our extensive experience assisting QinetiQ with managing clearance and safety assurance for the D701 range complex, we strongly believe that a Notice to Mariners will not in itself be sufficient to deter surface vessels, including fishing vessels, from remaining in the launch area – especially as the very fact of the launch may attract press and sightseer vessels, as well as fishing vessels as described above. We suggest that some form of proactive surveillance will be required to manage that risk, and will be happy to discuss that in another forum if desired.


I would be grateful for acknowledgement of our response.

Regards,

Head of Business Development and Safety

Regus House,
Fairbourne Drive,
Atterbury
Milton Keynes
Buckinghamshire
MK10 9RG

www.airtask.com



Babcock Offshore Helicopter Services Response.

BABCOCK OFFSHORE HELICOPTER SERVICES: RESPONSE

To: Shetland Space Centre

[Reply](#)
[Reply All](#)
[Forward](#)
...

Wed 09/03/2022 16:22

Follow up. Start by 25 June 2022. Due by 25 June 2022.
You replied to this message on 10/03/2022 11:15.

Classification: UNCLASSIFIED

Hi

From Offshore Helicopter Services, we have no objection or issues with this event.

Regards

Head of Flight Operations
Offshore Helicopter Services UK Limited
Farburn Terrace | Aberdeen Airport East | Dyce | Aberdeen | AB21 7DT

British Glider Association (BGA) Response.

BRITISH GLIDER ASSOCIATION: RESPONSE

[REDACTED]@gliding.co.uk>
To: Shetland Space Centre
You replied to this message on 10/03/2022 10:54.

Reply Reply All Forward ...
Wed 02/03/2022 20:01

Thanks for your engagement.

As there is no gliding in the Shetlands and none is anticipated, we do not feel it is appropriate for us to comment on your ACP.

Kind regards

[REDACTED]
BGA

British Helicopter Association (BHA) Response.

BRITISH HELICOPTER ASSOCIATION RESPONSE

[REDACTED]ceo@britishhelicopterassociation.org>
To: Shetland Space Centre
You replied to this message on 28/03/2022 15:49.

Reply Reply All Forward ...
Fri 25/03/2022 13:18

Dear SSC

The BHA has no objection to the proposal.

Yours

[REDACTED]
CEO BHA

ABL Space Systems Ltd Response.



PROTECT
(When Either Wholly or Partly Completed)



STAKEHOLDER ENGAGEMENT RESPONSE PROFORMA

Shetland Space Centre Limited Vertical Launch Temporary Airspace Reservation

Airspace change ID: ACP-2021-090

Representative Organisation: ABL Space Systems

Introduction

Shetland Space Centre Limited seeks to conduct vertical launch operations for orbital and sub-orbital activities from SaxaVord Spaceport on Lamba Ness, Unst, Shetland Islands.

A suitable temporary airspace reservation of defined dimensions will be required to ensure the safety of other airspace users from Shetland Space Centre launch activities, and to ensure the safety of Shetland Space Centre launch activities from other airspace users. It is anticipated that the temporary airspace reservation would be activated for specified periods before, during and after nominated launch activities and would extend from surface to unlimited.

Shetland Space Centre is, therefore, seeking stakeholders' opinions and comments to inform Shetland Space Centre airspace design activities to support the corresponding temporary airspace reservation ACP application. In addition, Shetland Space Centre's application for airspace change can be viewed on the Civil Aviation Authority's ([ACP-2021-090](#))

Responding to the Survey

This proforma features questions targeted at a range of aviation and non-aviation stakeholders. Please reply to all questions that you feel are relevant to your organisation.

Completed questionnaires should be returned to the following email address SAXAVORDTACPAPP@avisu.co.uk.

To enable Shetland Space Centre to collate as many stakeholder responses as possible, responses are requested by no later than 1700GMT Tuesday 31st May 2022.

Response Proforma

1. The design of the airspace is appropriate to the need described and to provide a safe environment for all airspace users.

Your Response

Agree *

Disagree *

Additional Comments (As Required):

2. What issues or constraints due to local general aviation operations might you believe would have an impact on the design of the Application.

Your Response

Agree *

Disagree *

Additional Comments (As Required):

* Delete as appropriate

3. Please provide details of any constraints the introduction of the Application could have on gliding, microlight flying, hang-gliding, paragliding and model flying.

Your Comments (As Required):

No comment

4. Please advise of any other issues or constraints you feel the Applicant should consider when designing the TDA.

Your Comments (As Required):

No Comment.

* Delete as appropriate

Thank you for your engagement. Your response will provide valuable input to aid the development of the Application.

All completed forms must be retained as evidence of the Applicant's engagement with stakeholders and other interested parties. Personal Data supplied by respondents will be retained confidentially and managed under the principles of the UK Data Protection Act (DPA) (2018) and the UK General Data Protection Regulation.

Signed
INITIALS AND SURNAME
Role/Position
Organisation
Email Address
Telephone No
Date

[Redacted Signature]
Sr. Director Mission Operations
ABL Space Systems

May 27, 2022

* Delete as appropriate

V1.1 FINAL 2 Mar 22

PROTECT
(When Either Wholly or Partly Completed)

Page | 4 of 4


FlyLogix Ltd Response.

Fwd: Engagement - West of Shetland TMZ Trial

[Redacted]@flylogix.com>
To: Shetland Space Centre

[Reply](#) [Reply All](#) [Forward](#) [...](#)

Thu 14/04/2022 08:59

 You replied to this message on 14/04/2022 11:43.
If there are problems with how this message is displayed, click here to view it in a web browser.

[Redacted]

I'm aware of your TDA ACP for the SSC vertical launch. There appears to be no conflict, nor airspace overlap with our current TDA operations (east and west of Shetland), nor our planned TMZ operations (west of Shetland). **I have no comments or observations for your own stakeholder engagement.**

[Redacted]

Kind regards

[Redacted]
Aviation Regulation Lead
Flylogix Ltd

FLYLOGIX 
#ALWAYS GOING FURTHER

Flylogix Limited is a limited company in England and Wales. Company registration number: 09650213. Registered office: Merlin House, 4 Meteor Way, Lee-on-the-Solent, Fareham, PO13 9FU.

Orbital Express (Orbex) Launch Ltd Response.



PROTECT
(When Either Wholly or Partly Completed)



STAKEHOLDER ENGAGEMENT RESPONSE PROFORMA

Shetland Space Centre Limited Vertical Launch Temporary Airspace Reservation

Airspace change ID: ACP-2021-090

Representative Organisation: Orbital Express Launch Ltd

Introduction

Shetland Space Centre Limited seeks to conduct vertical launch operations for orbital and sub-orbital activities from SaxaVord Spaceport on Lamba Ness, Unst, Shetland Islands.

A suitable temporary airspace reservation of defined dimensions will be required to ensure the safety of other airspace users from Shetland Space Centre launch activities, and to ensure the safety of Shetland Space Centre launch activities from other airspace users. It is anticipated that the temporary airspace reservation would be activated for specified periods before, during and after nominated launch activities and would extend from surface to unlimited.

Shetland Space Centre is, therefore, seeking stakeholders' opinions and comments to inform Shetland Space Centre airspace design activities to support the corresponding temporary airspace reservation ACP application. In addition, Shetland Space Centre's application for airspace change can be viewed on the Civil Aviation Authority's ([ACP-2021-090](#))

Responding to the Survey

This proforma features questions targeted at a range of aviation and non-aviation stakeholders. Please reply to all questions that you feel are relevant to your organisation.

Completed questionnaires should be returned to the following email address SAXAVORDTACPAPP@avisu.co.uk.

To enable Shetland Space Centre to collate as many stakeholder responses as possible, responses are requested by no later than 1700GMT Tuesday 31st May 2022.

Response Proforma

1. The design of the airspace is appropriate to the need described and to provide a safe environment for all airspace users.		
Your Response	Agree	Disagree *
Additional Comments (As Required):		
2. What issues or constraints due to local general aviation operations might you believe would have an impact on the design of the Application.		
Your Response	Agree	Disagree *
Additional Comments (As Required):		

* Delete as appropriate

V1.1 FINAL 2 Mar 22

PROTECT
(When Either Wholly or Partly Completed)

Page | 2 of 4

<p>3. Please provide details of any constraints the introduction of the Application could have on gliding, microlight flying, hang-gliding, paragliding and model flying.</p>
<p>Your Comments (As Required):</p>
<p>No comment</p>
<p>4. Please advise of any other issues or constraints you feel the Applicant should consider when designing the TDA.</p>
<p>Your Comments (As Required):</p>
<p>There was no evidence of an assessment of noise impact which could be substantial given the likelihood of sonic boom ground contours.</p>

* Delete as appropriate

Thank you for your engagement. Your response will provide valuable input to aid the development of the Application.

All completed forms must be retained as evidence of the Applicant's engagement with stakeholders and other interested parties. Personal Data supplied by respondents will be retained confidentially and managed under the principles of the UK Data Protection Act (DPA) (2018) and the UK General Data Protection Regulation.

Signed	<u>Flight Safety Team</u>
INITIALS AND SURNAME	<u></u>
Role/Position	<u>Flight Safety Officer</u>
Organisation	<u>Orbital Express Ltd</u>
Email Address	<u>fso@orbex.space</u>
Telephone No	<u></u>
Date	<u>31/05/2022</u>

* Delete as appropriate

V1.1 FINAL 2 Mar 22

PROTECT
(When Either Wholly or Partly Completed)

Page | 4 of 4

Intentionally Blank