

# ACP-2021-058

# STAKEHOLDER ENGAGEMENT REPORT

Version 3.0

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Approved by:



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# **CONFIGURATION CONTROL**

VERSION #	REVISION DATE	AUTHOR	MODIFIED SECTIONS	DESCRIPTION OF CHANGES
0.1	2022/03/28			First draft
0.2	2022/04/08	)	Fig. 6.3; Annex D	Review
			Sec 7.2.2	Added air traffic assessment from Eurocontrol
1.0	2022/04/14			Final
2.0	2022/05/11		Fig. 6-2; Fig. 7-2,7- 3,7-4; Fig. 7-5; Table 3; Par 6.3; Par 6.4; Par 7.2.1; Par 7.2.2; Par 7.3; Annex C; Annex F	Replaced; New;  Replaced; Added column; Edited; Added; Added evidence; Improved description of Fig. 7-2; Completed noise analysis; Added first TDA decription; Added first NATS response
3.0	2023/06/07		Par 1; Table 1; Table 3; Par 6.3; Figure 6-2; Par 6.4; Par 7.1; Figure 7-1; Annex F; Annex G	Edited; Updated; Updated; Edited; Updated; Edited; Edited; Edited; Updated; Edited; Added



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## 1 INTRODUCTION

Hylmpulse is planning the first launch of the sounding rocket SR75 from the Saxa Vord Spaceport (Shetlands islands, UK) in October 2023. For this purpose, Hylmpulse applied for an airspace change in September 2021 (<u>ACP-2021-058</u>) to cover this single launch activity regulated by the Air Navigation Order (ANO).

Consultation and engagement with aviation stakeholders affected by the proposed Temporary Danger Area (TDA) was conducted by Hylmpulse based on the requirements of the regulator (Appendix C of [CAP-1616]). The scope of the engagement was for the sponsor (Hylmpulse) to understand the need for an airspace change and how it would potentially impact stakeholders. The stakeholder engagement consisted of three parts: identifying the right audience, understanding the stakeholder needs, identifying their requirements. Hylmpulse conducted these steps from January 3<sup>rd</sup> to March 18<sup>th</sup> 2022 during the so called stakeholder engagement phase. The feedback of the stakeholders in the area suggested to re-design the originally proposed TDA as well as to redefine its activation time. The previous version of this report [RD-01] showed evidence of the stakeholder engagement and proposed a revised TDA based on the stakeholders' needs. This final version includes a status update on the open items, as well as an update of the mission profile and splashdown area according to the latest update to the Hylmpulse's Flight Safety Analysis and engine performance.

### 2 APPLICABLE AND REFERENCE DOCUMENTS

[RD-01] HIT-SR75 Stakeholder Engagament report v2.0.pdf, May 2022

[CAP-1616] Airspace change: Guidance on the regulatory process for changing the notified airspace design and planned and permanent

redistribution of air traffic, and on providing airspace information,

CAA, March 2021

### 3 DEFINITIONS AND ABBREVIATIONS

ACP	Airspace Change Proposal
AEE	Assessment of Environmental Effects
HIT	Hylmpulse Technologies GmbH, Hylmpulse UK Ltd.
SR75	Sounding Rocket 75 (Hylmpulse product)
ANO	Air Navigation Order
FSA	Flight Safety Analysis
TDA	Temporary Danger Area
FBZ	FPL Buffer Zone
SAR	Search and Rescue
SIA	Space Industry Act
Saxa	Saxa Vord Spaceport



## 4 PURPOSE OF AIRSPACE CHANGE

No changes from previous submission [RD-01].

### 5 STAKEHOLDER ENGAGEMENT

No changes from previous submission [RD-01].

## 5.1 OBJECTIVES

No changes from previous submission [RD-01].

### 5.2 IDENTIFICATION OF LOCAL STAKEHOLDERS

Table 1 reports the feedback of engaged stakeholders with potential objections to the TDA in May 2022. The color code has changed to green before this submission.

Feedback Feedback Organization May June 2022 2023 Airtask Group Bristow Helicopters - Sumburgh Isavia Northern Lighthouse Board Met Office Ministry of Defence - Defence Airspace and Air Traffic Management (MoD DAATM) **NATS CAA Norway** Doesn't apply

Table 1 Engaged stakeholders: response update

#### 5.3 ADDITIONAL STAKEHOLDERS

No changes from previous submission [RD-01].

### 5.4 COMMUNICATION CHANNELS

No changes from previous submission [RD-01].

## 5.5 ENGAGEMENT MATERIAL

No changes from previous submission [RD-01].

### 6 ANALYSIS OF STAKEHOLDERS FEEDBACK

### 6.1 TDA PROPOSALS BEFORE ENGAGEMENT



## **6.2 RELEVANT STAKEHOLDERS**

No major changes from previous submission [RD-01]. Updated Status column of Table 3.



Table 3 Relevant stakeholder feedback

		ו מטופ ט ואפופעמווו אומאפווטומפו ופפעטמכא	וטומפו ופפתחמטע		
Stakeholder	Conditions	Reason	Required inputs	Responsible	Status
NATS	Creation of a 5nm FBZ around the TDA in the Scottish Free Route Airspace	CAA policy on Free Route Airspace	FBZ only required within the Scottish FIR	Hylmpulse (Sec. 6.3.1)	Completed
	Modularity of TDA: small area around the launch site activated prior to remote loading operations; larger area only activated to cover the launch/recovery phase	Reduce number of flights adversely affected by the launch	Traffic analysis	Hylmpulse (Sec. 6.3.2)	Completed
	LoA between Range Operator (Saxa Vord Spaceport) and NATS before launch license can be granted	Agree priority of activities within the TDA and communication channels	Engagement with Saxa Vord	Saxa; NATS	On Saxa: LoA in progress. Legal requirement between ANSP and Range Operator only (Saxa). To be signed after approval of this ACP.
MOD DAATM	Clarification of the TDA impact on the route network; Clarification of any agreements that have been reached with the CAA regarding priority of TDA activation vs impacted activities	MOD and NATS agreement on concurrent activation of Danger Areas	Summary of traffic analysis from - Isavia - Eurocontrol - Saxa Vord spaceport	Hylmpulse	Completed
	-		Contingency procedures for the possibility of non-compliant aircraft flying through the TDA when active (e.g. foreign aircraft not under control of UK ATC agencies); or other aircraft flying close so that they can watch the launch	NATS; Saxa	On Saxa: LoA in progress. Legal requirement between NATS and Range Operator only (Saxa).



Hylmpulse	

Stakeholder Engagement Report	agement Report				
	Robust communication chain between 78 Sqn and ASACS;	Potential to impact MOD's responsibility to the NATO Air Policing task	TDA detailed activation timeline	Hylmpulse	Information provided by Hylmpulse to Range Operator (Saxa)
	Understanding of activation timelines		Communication plan between spaceport and 78Sqn/ASACS	Saxa	Not required (Annex F)
	Engagement with the UK Space Operations Centre (UK SpOC)	UK SpOC is responsible for monitoring and reporting of all UK space launch activities	Provide UK SpOC with details on launch activities	Hylmpulse	Completed (Annex F)
Airtask Group	Priority to SAR operations in the TDA until prior to launch	Emergency response on daily basis	Detailed launch events	Hylmpulse	Information provided by Hylmpulse to Range Operator (Saxa)
			Contact details of the operations room for the spaceport; direct communication during launch activities	Saxa	Information provided by the Range Operator (Saxa)
	Provide DACS with the TDA	High flexibility in operations	Highly recommended for future launches	Saxa	Not implemented
Bristow Helicopters	Direct communications with spaceport	SAR emergencies, timely access to the TDA	Contact details of the operations room for the spaceport	Saxa	Information provided by the Range Operator (Saxa)
			Detailed launch events	Hylmpulse	Information provided by Hylmpulse to Range Operator (Saxa)
MetOffice	Contact Lerwick Observatory before launch	Avoid interference of weather balloons in the TDA if needed	Detailed launch events	Hylmpulse; Saxa	Information provided by Hylmpulse to Range Operator (Saxa)



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Northern Lighthouse Board	Contact NLB before launch NLB has an operations GLAs fleet of ve	B bef	ore	aunch	NLB has GLAs fleet	an oversi	NLB has an oversight of the GLAs fleet of vessels and aircraft	Contact NLB Planning Co- ordinator and Delivery Planning inbox	B Plk d Delive	oversight of the Contact NLB Planning Co-Hylmpulse ssels and aircraft ordinator and Delivery Planning inbox	Hylmpulse	Information provided by Hylmpulse to Range Operator (Saxa)
Isavia	Suggested launch w 22.00 pm – 8.00 am	inch win 30 am	dow bet	tween	Minimize t entering th	Minimize the impact or entering the BIRD FIR	on air traffic	Traffic analysi assess comp	is from E atible la	Suggested launch window between Minimize the impact on air traffic analysis from Eurocontrol to Hylmpulse 22.00 pm – 8.00 am entering the BIRD FIR assess compatible launch window (Sec. 7.2.2)	Hylmpulse (Sec. 7.2.2)	Not implemented
	Contact ICETRA Transport Authority)	SETRA nority)		(Icelandic	Inform Authority	Iceland	Transport	Transport TDA description	ion		Hylmpulse	Completed (Annex G)
CAA Norway	CAA Norway The TDA entering the FIR Polaris Regulations shall be requested as DA to the CAA Norway with an additional application	ering the sted as DA th an	FIR Polaris DA to the CAA additional	olaris CAA itional	Regulation	SI		Launch operations; TDA act time; coordination with ATS	ations; T ation wit	aunch operations; TDA activation Hylmpulse ime; coordination with ATS (Sec. 6.3)	Hylmpulse (Sec. 6.3)	Not implemented

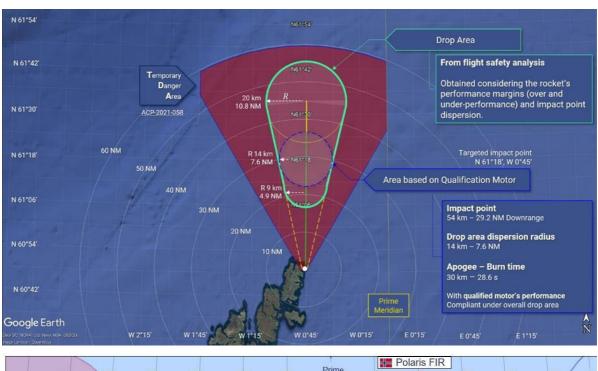


### 6.3 TDA PROPOSAL AFTER ENGAGEMENT

No major changes from previous submission [RD-01].

Figure 6-2 (top) has been replaced to include an update of the impact area based on the latest Flight Safety Analysis (FSA) for this flight. The updated FSA considers the performance of the qualified motor for the sounding rocket (Q2/2023).

No changes to the shape of the TDA are required.



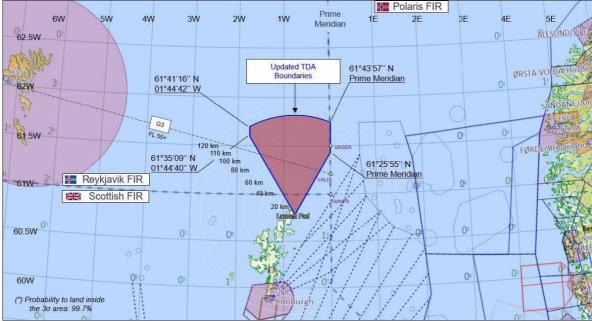


Figure 6-2 TDA shape - updated



#### 6.3.1 FPL BUFFER ZONE

No changes from previous submission [RD-01].

#### 6.3.2 MODULARITY

No changes from previous submission [RD-01].

#### 6.3.3 ACTIVATION PROCEDURES

No changes from previous submission [RD-01].

### **6.3.4 ACTIVATION TIME**

The launch of a rocket can highly depend on weather conditions on site, and it is not rare that a launch is postponed. As a consequence, Hylmpulse cannot provide an exact date of launch when submitting this application, rather than targeting the launch day to mid of October 2023.

Hylmpulse intends to complete one single launch within the 90 days notification period. Exact planned launch dates will be confirmed with a minimum of ten days' notice by NOTAM and will include details of the planned fallback dates that will be required to account for unsuitable weather or other factor that prevents or delays the planned launch. The NOTAM will be activated for 7 days in a row to allow flexibility for a scrap launch.

The launch window has been selected based on the analysis of traffic conducted by Eurocontrol (Sec. 7.2.2) and negotiations with Isavia and ICETRA. In particular, ICETRA could agree only on 0700 – 1000 UTC (see Annex G).

#### 6.4 POSITION OF HYIMPULSE

Hylmpulse understands the concerns of aviation stakeholders related to the de-routing of the high level traffic during the peak traffic of the day. After negotiations with Icelandic authorities, Hylmpulse agrees on a launch window in the morning, 0700-1000 UTC.

## 7 ENVIRONMENTAL REQUIREMENTS

No changes from previous submission [RD-01].

#### 7.1 LAUNCH PROFILE

The sounding rocket SR75 is to be launched for its first suborbital flight from the Saxa Vord spaceport. The launch site is located at  $60^{\circ}49'04''N - 0^{\circ}45'40''W$  (Unst). After the boost phase the SR75 will coast to the apogee (ca. 30 km) where the nose cone will be jettisoned. The booster will be recovered with parachutes. The drop zone of the nose cone is expected to be 2 km uprange of the booster's one. A summary of the flight phase is provided in Figure 7-1.

The airspace change requested in this application is covering a single launch of SR75 under the ANO regulation. The flight mission is limited to about 370 seconds from the moment of liftoff to the moment of splashdown.



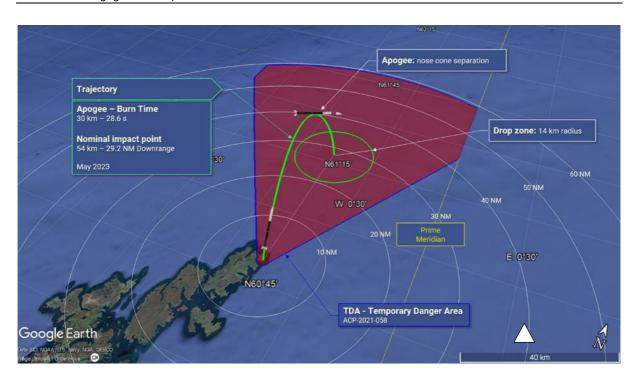


Figure 7-1 Nominal trajectory and main events

### 7.2 NOISE IMPACT DUE TO DE-ROUTED AIR TRAFFIC

No changes from previous submission [RD-01].

#### 7.2.1 LOW LEVEL TRAFFIC

No changes from previous submission [RD-01].

### 7.2.2 HIGH LEVEL TRAFFIC

No changes from previous submission [RD-01].

### 7.3 NOISE IMPACT DUE TO LAUNCH OPERATIONS

No changes from previous submission [RD-01].

## 8 CONCLUSIONS

Hylmpulse applied for an airspace change (<u>ACP-2021-058</u>) to cover a single launch activity of its sounding rocket SR75.

Changes from the previous submission [RD-01] were identified in this version.

There are no changes to the environmental assessment for noise disturbance as well as to the air traffic analysis.

All concerns and changes raised during the stakeholder engagement phase have been cleared.

The TDA proposed at the end of the consultation is to be activated only once during its notice time of 90 days at the earliest in October 2023. The TDA contains modularity,



so that the zone close to the launch pad is activated 6-4h prior to launch due to the loading operations on the rocket. The full TDA will be only activated about 2h before flight to reduce the impact on the high-level traffic. The TDA will extend from surface to unlimited. An FPL Buffer Zone (FBZ) is activated within a margin of 5 nm from the TDA boundary only in the Scottish FIR. Search and Rescue (SAR) operations on the low-levels are prioritized in the TDA until the loading operations on the rocket are completed. A suitable launch window having a minor impact on the air traffic was selected based on the feedback from Isavia, ICETRA and Eurocontrol, and it is currently set to 0700-1000 UTC.



# ANNEX A. STAKEHOLDER ENGAGEMENT EMAILS



# ANNEX B. STAKEHOLDER RESPONSE FORM



# ANNEX C. TDA DESCRIPTION - FIRST CONTACT



# ANNEX D. TDA - COORDINATES



# ANNEX E. FBZ - COORDINATES



## ANNEX F. STAKEHOLDER RESPONSE

Additional responses to the previous submission [RD-01] are reported hereby. The responses support the status of the items listed in Table 3.

From: Sent: To: Cc: Subject:	Mittwoch, 7. September 2022 15:25  RE: Hylmpulse 2022 Launch - Process Walk Through
Follow Up Flag: Flag Status:	Follow up Completed
Good Afternoon	
UK CAA can approve the ACP.  1. There is no legal require ANSP. (The legal requir 2. Until the UK CAA has ap signing an LoA regardin	thy you have been told you need an LoA with NATS to be in place before the have raised this with UK CAA as: ment we know of for the Launch Operator to have an LoA with the ement is on the Ranger Operator – Saxa Vord in this case.) proved the ACP, the details of the Danger Area are not fixed, so we would be g an airspace block which is unknown and potentially changeable. That is not o, and we have informed CAA of this.
and ICETRA if necessary]) as we share a draft with CAA to demo	nue with the multi-way LoA (Hylmpulse, Saxa Vord, NATS, Isavia, [plus CAA e believe that represents an efficient way to avoid any confusion. We could nstrate progress and commitment if necessary but as will not be back to be surprised if we could have every last detail complete by 16 September.
window 0700-1000 UTC as the what they believe would be the	re are happy to carry on with working out the details on the basis of the 3 hour regulators are happy with that. While Eurocontrol may have a view as to most (or least) efficient launch window from a network perspective, that ational regulator(s), so if CAA and ICETRA say 3 hours is OK, Eurocontrol can't
	aunch in the first requested hour would be the best idea as it 1) gives you the ays and 2) allows for early release of the airspace if the launch takes place on
I'll get in touch with when Teams call on Tuesday 13 <sup>th</sup> or N	she returns from leave on Monday. Would you be available for a short Wednesday 14 <sup>th</sup> if necessary?
Kind Regards	
From: Sent: 07 September 2022 07:43 To: Cc: Subject: [EXTERNAL] RE: Hylmpuls	se 2022 Launch - Process Walk Through
CAUTION: This email originated fro recognise the sender and know the	m outside of the organisation. Do not click links or open attachments unless you content is safe.
Good morning	1

Now that I am back from leave, I could sort out some important points with ICETRA and Eurocontrol. Here is a recap:

- I was informed that Eurocontrol proposed a launch window of 1h in the last meeting. I discussed this matter thoroughly with last week and Hylmpulse got written confirmation to go for 3h because of
  - First launch (as a reference I used the Artemis I from NASA which has been scrapped already two
    times in a row in their own airspace. They have a launch window of 2h and they are experienced –
    just the technology is new, as in our case)
  - Safety of operations with short daylight time in December February. (3h would allow to perform part of the loading and recovery operations in dim light or at sunrise)
- Hylmpulse also agreed with Eurocontrol to target the launch for the first requested hour and to free the airspace as soon as operations have been safely concluded, for the interest of the aviation stakeholders
- ICETRA approved yesterday the launch window of 3h as 0700-1000 UTC

Our current deadline to provide this LoA to the CAA is September 16<sup>th</sup>. Would you give me a quick update about the status of the LoA and if there is a chance that we could meet this deadline? I will then reconsider with the CAA whether we need to shift the deadline to the next month or if we are good with the current deadline.

Thank you in advance for your feedback!

Best regards,

### **Space Licensing and System Engineer**

Hylmpulse Technologies GmbH Wilhelm-Maybach-Straße 5 74196 Neuenstadt am Kocher Germany

E-Mail:
Phone:
Web: www.hyimpulse.de

Hylmpulse Technologies GmbH, registered in Hardthausen, is represented by Dr. Mario Kobald and Dr. Christian Schmierer Commercial register HRB 764976 at Amtsgericht Stuttgart, VAT number according to §27a VAT Act: DE 318131043

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From:	
Sent: Montag, 22. August 2022 11:23	
То:	
Subject: RE: Hylmpulse 2022 Launch - Process Walk Through	

Dear All

Please see attached the updated Timeline document following last Friday's meeting.

As was to be expected, holding the meeting in the middle of August meant that we couldn't discuss every point in detail due to people being on leave. Please see the yellow and green highlights for updates and outstanding questions.

Kind Regards

----Original Appointment----

From:

Sent: 27 July 2022 11:34

To:

Subject: Hylmpulse 2022 Launch - Process Walk Through

When: 19 August 2022 11:00-12:00 (UTC+00:00) Dublin, Edinburgh, Lisbon, London.

Where: Microsoft Teams Meeting

Dear All

We agreed at our last meeting that we would try and do a "walk through" of the processes and activities.

Would Friday 19th August work for you?

(Recent experience suggests that 1 hour should be sufficient.)

Kind Regards

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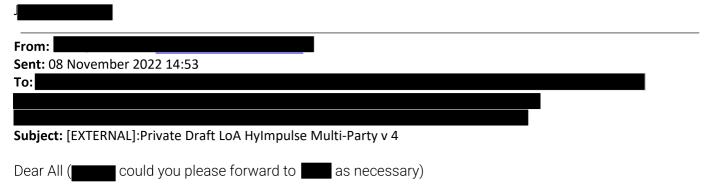
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From:	Montos 12 Dozombor 2022 10:20
Sent: To:	Montag, 12. Dezember 2022 10:20
Cc: Subject:	RE: [EXTERNAL]:Private Draft LoA Hylmpulse Multi-Party v 4
Follow Up Flag: Flag Status:	Follow up Flagged
Good morning	
requirement for 78 Sqn to be pa subject matter experts and they operations. We have adequate of any aspects. The LoA covers the	gh and reviewed the LoA. From our perspective we don't believe there is a rty to this now. I have consulted our Air Defence team as well as Scottish sector have concluded that a NOTAM, from our perspective, is enough information for our communication lines to Saxa Vord if we should need to speak to the range control for events associated with Air security and incidents where aircraft may look to transit change or you require further stakeholder engagement or a POC for the Mil please or myself.
Kind regards,	
78 Sqn   Swanwick Military, Sop SKYPE: E-Mail:	Squadron Leader   OC 2 Operations & Assurance with Way, SOUTHAMPTON, SO31 7AY   DFTS: 95586 2053   PSTN: 01489 612053
	traffic control services and critical supporting functions, to enable the safe provision rum of operations, within the UK and overseas.
From: Sent: 08 December 2022 14:15 To: Cc: Subject: Fw: [EXTERNAL]: Private	e Draft LoA Hylmpulse Multi-Party v 4
Hi	
Please see attached from for Spring '23. Could you please point for a LoA with 785gn?	at NATS. This is a draft LoA for the Hylmpulse ANO launch scheduled ase have a look through it and let me know if this would be a suitable starting

I will let you know once we have date set for our next meeting with NATS and Isavia.

Many thanks,



As discussed this morning, please find attached v4 of the LoA.

I have tried to remove all references to Isavia ANS / Reykjavik FIR, except for a couple which explicitly say they are not in scope.

I've included the Timeline document as a new Annex C. We'll need to agree how to deal with the various references to organisations which are not party to the LoA.

Could you please let me have any comments by Friday 19<sup>th</sup> November?

Kind Regards





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From: Sent: To: Cc: Subject:	Freitag, 9. September 2022 15:37  FW: [Follow up #2 - TDA Change] - Temporary airspace change in the UK - Shetland Islands
Follow Up Flag: Flag Status:	Follow up Flagged
Both and and	e., y DAATM roles, requirements and formal cascade protocols but with the data you documents will certainly allow us early sight of useful and pertinent mission detail.  are only temporarily away and will be back in the loop soon.
Kind regards,	
Mil:   Tel C	Warrant Officer (RAF)   Principle Air & Space Operations Manager (PASOM)   WOtions Centre (UK SpOC)   RAF High Wycombe   Naphill   Bucks   HP14 4UE   Televiv:     SSS: 9298 5221 4531/4071
A KINGSON	
From: Sent: 08 September 2022 17:0  To: Cc: Subject: RE: [Follow up #2 - T]	DA Change] - Temporary airspace change in the UK - Shetland Islands
Dear Dear	

Thank you for getting back to us.

We would like to understand which kind of information we could provide the UK SpOC for our planned launch. Quoting the feedback received from DAATM in March:

As your proposal deals with rocket launching, as well as liaison through the Defence Space Agency, 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 require 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.

We do have a flight safety analysis for our launch, which includes nominal mission profile, launch area, splashdown area. We also have a countdown sequence drafted for our launch. The documents have been provided to the CAA UK as part of our licence application undergoing the Air Navigation Order.

Would these two documents be sufficient to start with or would the UK SpOC require further information from our side?

Thank you in advance for your response.

Best regards,

### **Space Licensing and System Engineer**

Hylmpulse Technologies GmbH Wilhelm-Maybach-Straße 5 74196 Neuenstadt am Kocher Germany

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To:		
Cc:		

Subject: RE: [Follow up #2 - TDA Change] - Temporary airspace change in the UK - Shetland Islands

Good afternoon

More than happy to act as the initial POC for the SpOC and will ensure others will be in contact IDC. Please forward or send me the relevant details and we will action and reply as required.

Kind regards,

Warrant Officer (RAF)   Principle Air & Space Operations Manager (PASOM)   WO UK Spoc   UK Space Operations Centre (UK Spoc)   RAF High Wycombe   Naphill   Bucks   HP14 4UE   Tel Mil:     Tel Civ:
A COMPED KINGOON
From:
<b>Sent:</b> 08 September 2022 11:53 <b>To:</b>
Cc:
Subject: RE: [Follow up #2 - TDA Change] - Temporary airspace change in the UK - Shetland Islands
Thank you for your email. The POC at 78Sqn that I use is conversations with Saxvord then he will be able to work out who has.
Sent to you as have OOO responses on. Please can you make contact with to discuss the forthcoming launch, so UK SpOC is then aware of the details?
Best regards,
SO2 Airspace Plans   Defence Airspace and Air Traffic Management   Aviation House   1E Beehive Ringroad Crawley West Sussex RH6 OYR   Mobile Telephone:   Skype:     Skype:
From: Sent: 07 September 2022 08:09

To: Cc:
Subject: RE: [Follow up #2 - TDA Change] - Temporary airspace change in the UK - Shetland Islands
Good morning
I hope you are doing well and that you had a nice summer leave.
I was wondering if you have some information for us from the UK SpOC. I haven't been contacted by them yet.
Hylmpulse is currently targeting the deadline of September 16 <sup>th</sup> with the CAA. By that date we should prove at least that we got in contact with UK SpOC and the 78Sqn regarding the points suggested by DAATM in your email from March.
Would you let me know if the PoCs at SpOC could contact me by, let's say, Wednesday next week (Sept 14 <sup>th</sup> )? Otherwise I would renegotiate another deadline with the CAA.
For the 78Sqn I believe that SaxaVord already contacted them to establish an agreement about comms and procedures, but just in case would you have a PoC there for me to inquire about the status of this agreement?
Thank you in advance for your help. I appreciate your time on this.
Best regards,
Space Licensing and System Engineer
Hylmpulse Technologies GmbH Wilhelm-Maybach-Straße 5 74196 Neuenstadt am Kocher Germany
E-Mail: Phone: Web: www.hyimpulse.de
HyImpulse Technologies GmbH, registered in Hardthausen, is represented by Dr. Mario Kobald and Dr. Christian Schmierer Commercial register HRB 764976 at Amtsgericht Stuttgart, VAT number according to §27a VAT Act: DE 318131043
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From:
<b>Sent:</b> Freitag, 22. Juli 2022 14:43
To: Cc:
Subject: RE: [Follow up #2 - TDA Change] - Temporary airspace change in the UK - Shetland Islands

I will pass it on to the UK SpOC.

Best regards,
SO2 Airspace Plans   Defence Airspace and Air Traffic Management   Aviation House   1E Beehive Ringroad Crawley West Sussex RH6 OYR   Mobile Telephone:     Skype:
From: Sent: 22 July 2022 13:42 To: Cc:
Subject: RE: [Follow up #2 - TDA Change] - Temporary airspace change in the UK - Shetland Islands
Hi Maria
Just a quick follow up from my side.
Since I will be ooo from July 28 <sup>th</sup> to August 26 <sup>th</sup> , could you pass the colleagues at UK SpOC the contact of in CC) to initiate the conversation during my absence?
Thank you in advance!
Best regards,
Space Licensing and System Engineer
HyImpulse Technologies GmbH Wilhelm-Maybach-Straße 5 74196 Neuenstadt am Kocher Germany
E-Mail: Phone: Web: www.hyimpulse.de
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From: Sent: Freitag, 8. Juli 2022 17:13

**Subject:** RE: [Follow up #2 - TDA Change] - Temporary airspace change in the UK - Shetland Islands

Cc:



# ANNEX G. LAUNCH WINDOW

From: I - SGS < Dienstag, 6. September 2022 18:30

To: Cc:

**Subject:** RE: Temporary airspace change in the UK - Shetland Islands

Follow Up Flag: Follow up Flag Status: Flagged

Dear

ICETRA agrees with the proposed time window 0700-1000 UTC for your first launch.

Með kveðju / Best regards,

Eftirlitsmaður / Inspector ANS



**Icelandic Transport Authority** Ármúli 2, 108 Reykjavík Iceland Sími / Phone www.samgongustora.is / www.icetra.is

Verndum umhverfið, prentum sem minnst Fyrirvari við tölvupóst - email disclaimer

From:

**Sent:** 06.09.2022 15:01

To: Cc:

Subject: RE: Temporary airspace change in the UK - Shetland Islands

Dear

I haven't heard back from ICETRA in the past week so I would like to follow up with you regarding this matter, as we are approaching our deadline for signing the LoA with Isavia (Sept 16).

Based on our consultation with Eurocontrol (see below), Hylmpulse would like to receive confirmation from ICETRA that the proposed time window 0700-1000 UTC is accepted for our launch. Please kindly note that Hylmpulse cannot proceed to sign the LoA with the second Icelandic stakeholder, Isavia, if we can't prove written confirmation from ICETRA.

Again, I would like to remind all parties that Hylmpulse has always cooperated to understand the view of all stakeholders involved and to adapt to the launch window accordingly, provided that our operations can be conducted safely. The implications of requesting 3h for our first launch have also been thoroughly understood.

I am looking forward to your response.

Best regards,

#### **Space Licensing and System Engineer**

Hylmpulse Technologies GmbH
Wilhelm-Maybach-Straße 5
74196 Neuenstadt am Kocher
Germany

E-Mail:
Phone:
Web: www.hyimpulse.de

Hylmpulse Technologies GmbH, registered in Hardthausen, is represented by Dr. Mario Kobald and Dr. Christian Schmierer Commercial register HRB 764976 at Amtsgericht Stuttgart, VAT number according to §27a VAT Act: DE 318131043

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From:	
<b>Sent:</b> Dienstag, 30. August 2022 13:08	
To:	
Cc:	
Subject: RE: Temporary airspace change in the UK	( - Shetland Islands
Door	

I would like to remind people that as Hylmpulse have to recover the rocket from the sea. The daylight hours at that time of year give a very short window for the launch.

As Hylmpulse have agreed to release back the Airspace ASAP after a successful launch this is acceptable to NMOC . Especially as this is a first launch .

**Best Regards** 

From:	
<b>Sent:</b> 30 August 2022 12:19	
То:	
Cc:	

Subject: RE: Temporary airspace change in the UK - Shetland Islands

Dear

I acknowledge that there was the discussion of 1h limitation introduced by Eurocontrol in the last meeting.

After consulting with from Eurocontrol (in CC), both parties understand the implications involved in requesting 3h. Based on our conversation, Hylmpulse would still like to request 3h because this is our first launch (as a good

example: Artemis I from NASA was also scrapped yesterday morning and they had 2h launch window in their own airspace). However, to agree with the terms of Eurocontrol, Hylmpulse is committed to free the airspace as soon as possible once the operations are concluded safely.

would you like to add further considerations on this point?

I am sure that all parties involved have assessed and understood the implications of such request thoroughly.

Best regards,

#### **Space Licensing and System Engineer**

Hylmpulse Technologies GmbH Wilhelm-Maybach-Straße 5 74196 Neuenstadt am Kocher Germany

E-Mail: Phone: Web: www.hyimpulse.de

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From:

Sent: Dienstag, 30. August 2022 12:11

To:

Cc:

Subject: RE: Temporary airspace change in the UK - Shetland Islands

Hi

after discussion with the Eurocontrol NM, it became clear that three hours launch window is not an option to them. And it is correct that the traffic flow is less in the area in the afternoon. The NM suggested Hyimpuls to mention 1 hour launch window to be evaluated.

So this matter needs further negotiation between Hyimpuls, UK CAA, ICETRA and Network Manager before signing MOU.

Með kveðju / Best regards,

Eftirlitsmaður / Inspector ANS



## Icelandic Transport Authority

Ármúli 2, 108 Reykjavík Iceland Sími / Phone

www.samgongustofa.is / www.icetra.is

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From: |
Sent: 30.08.2022 10:03
To: |
Cc: |

Subject: RE: Temporary airspace change in the UK - Shetland Islands

Dear

I hope you are doing well and that you had a nice summer!

I had time to discuss with Eurocontrol about the launch window and we are happy to re-confirm that Hylmpulse accepts the suggestion of ICETRA for **07:00-10:00 UTC**. We are in the process to confirm the 90 days activation time with the CAA UK.

Would you please reply to this email to acknowledge the selected window 07:00-10:00 UTC? We would use ICETRA's reply as confirmation to sign the LoA with Isavia.

Thank you in advance for your time.

Best regards,

#### **Space Licensing and System Engineer**

Hylmpulse Technologies GmbH Wilhelm-Maybach-Straße 5 74196 Neuenstadt am Kocher Germany

E-Mail: Phone:

Web: www.hyimpulse.de

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From:
Sent: Freitag, 1. Juli 2022 12:00
To:
Cc:
Subject: RE: Temporary airspace change in the UK - Shetland Islands

-

Icetra understands the concerns of Hyimpulse of increased cost and noise considerations.

But we must as well consider the cost and effect of other airspace users and IATA has raised concerns on increased cost to operators and passengers due longer routes and delays.

Considering the suggested launch window between 0700-2000 is not in line with the suggestions from the ANSP, and to mitigate the effect on other airspace users, Icetra would like to suggest window in the morning from 05:00-10:00 UTC (or 07:00-10:00 UTC), or in the evening 19:00-23:00 UTC.

Með kveðiu / Best regards.

Eftirlitsmaður / Inspector ANS



**Icelandic Transport Authority** Ármúli 2, 108 Reykjavík Iceland Sími / Phone www.samqongustofa.is / www.icetra.is

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From:	
Sent: 15.06.2022 07:23	
To:	
Cc:	
Subject: RE: Temporary airspace change in the UK - Shetland Islands	
Dear	

Thank you for your quick response!

We understand the need of the airspace users crossing the Reykjavik FIR, as we reported in our public report available at https://airspacechange.caa.co.uk/documents/download/4469.

However, Hylmpulse would benefit from a launch window allocated between 0700 – 2000 because of several other factors explained in Paragraph 6.4 of the document (frequency of launch, safety of operations, cost of operations, noise disturbance). To provide more flexibility for both Hylmpulse and the airspace users we suggested the use of a modular DA, to be activated only 2-3 hours prior to the launch time to minimize the impact on the air traffic.

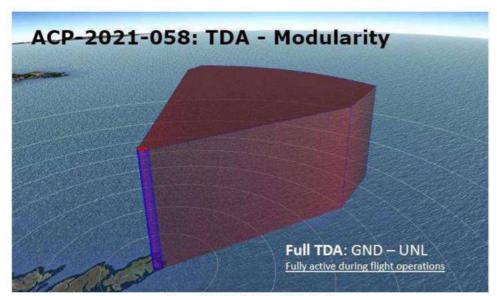


Figure 6-5 TDA (GND - UNL): flight

We are also basing our assessment on the air traffic analysis of Eurocontrol (par. 7.2.2 of the document above). Eurocontrol reports that the traffic re-routed to bypass the TDA is generating on average only 2.3 NM of the route extension per flight (Figure 7-6).

Based upon the information above and that Hylmpulse is planning one single launch activity between September-October 2022, we would like to understand with ICETRA whether a launch window covering the time 0700 – 2000 could be acceptable. If we don't reach an agreement with ICETRA it would not be possible for us to draft the LoA with Isavia and proceed with the operations.

I thank you in advance for your time.

Best regards,

#### **Space Licensing and System Engineer**

Hylmpulse Technologies GmbH Wilhelm-Maybach-Straße 5 74196 Neuenstadt am Kocher Germany

E-Mail: Phone: Weh: www.hvimpulse.de

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From:

Sent: Dienstag, 14. Juni 2022 22:58

To:

Cc: Subject: RE: Temporary airspace change in the UK - Shetland Islands
Dear
apologies on unaswered email.  I'm now in contact with regarding alignement between the states for the publication of NOTAM for danger areas for the Hylmpuls launch.
We consider it most important that coordination with the ANSP is successful to ensure safety and minimise the negative effect on other airspace users.  Launch window between 10pm and 8am appears to serve that purpose.
We need to know if any jettison will happen within the economic zone of Iceland (200 NM from coastline).
Please advise if there are other issues than the publication of DA outstanding.
Með kveðju / Best regards,  Eftirlitsmaður / Inspector ANS
Samgöngustofa  ICELANDIC TRANSPORT AUTHORITY  Ármúli 2 - 108 Reykjavík - Iceland Sími / Phone www.samgongustofa.is - www.icetra.is  Verndum umhverfið, prentum sem minnst Fyrirvari við tölvupóst - email disclaimer
From: Sent: 13.06.2022 07:50  To: Cc: Subject: RE: Temporary airspace change in the UK - Shetland Islands
Dear Dear Dear Dear Dear Dear Dear Dear
I am getting in contact with you following from a conversation with treceived any reply from ICETRA in the past months and we would like to follow up with you regarding this topic.
In fact, Hylmpulse is seeking from feedback from ICETRA in order to initiate the discussion with Isavia regarding the notification of the temporary DA in the Reykjavik FIR mentioned below in my email.
I am looking forward to receiving your feedback. Please don't hesitate to ask if you'd require further information from our side.
Best regards,

**Space Licensing and System Engineer** 

Hylmpulse Technologies GmbH Wilhelm-Maybach-Straße 5 74196 Neuenstadt am Kocher Germany

E-Mail: Phone:

Web: www.hyimpulse.de

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From:

Sent: Montag, 4. April 2022 21:27

Cc:

Subject: Temporary airspace change in the UK - Shetland Islands

#### To the kind attention of ICETRA:

Hylmpulse is applying for a temporary airspace change in the UK to establish a Temporary Danger Area during notified periods to enable the safe testing and demonstration of its sounding rocket, SR75. You can find more information about Hylmpulse's aim, why we requested an airspace change, and the documention used for the stakeholder engagement at this link. The full stakeholder engagement report will be available on the website starting from April 15<sup>th</sup>.

The process required us to engage with potential stakeholders in the area who might be affected by this proposal. In the past months we had a constructive engagement with Isavia on this matter. Isavia provided us with an air traffic analysis for the proposed DA and suggested a launch window between 10.00pm – 8.00 am to minimize the impact on the air traffic. Additionally, Isavia suggested Hylmpulse to inform ICETRA, which we are doing with this email.

Please do not hesitate to contact us in case you require further information from our side. We will keep you updated on the process of the DA application managed by the CAA UK.

Best regards,

#### Space Licensing and System Engineer

Hylmpulse Technologies GmbH Wilhelm-Maybach-Straße 5 74196 Neuenstadt am Kocher Germany

E-Mail: Phone:

Web: www.hyimpulse.de

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