

Breakout Session Scenarios

Space Object Launch and Re-entry Activities Coordination

The following scenarios are provided to support breakout-session discussions on coordination arrangements for space object launch and re-entry activities, including notification, operational coordination, NOTAM issuance, contingency considerations, and possible improvements to the APAC Regional Guidance for Space Object Launch and Re-entry Activities Coordination.

Scenario 1 – Tentative launch window and delayed confirmation

On **1 August 2026**, your State received the following information from the point of contact (POC) of the launching State (**State F**), requesting that necessary measures be taken to ensure the safety of civil flights within your FIR.

Tentative effective time (UTC): 10–16 August 2026, 1100–1600 daily

Area A: Nxxxx Exxxxx, Nyyyy Eyyyyy, Nzxxx Ezzzzz, Naaaa Eaaaaa

The information also indicated that a further notification confirming the actual time window would be provided 3 to 7 days prior to the launch.

On **3 August 2026**, based on the tentative information received on 1 August, you issued the following NOTAM establishing a temporary danger area in **Area ABCD** in relation to the space activity:

Cbbbb/26 NOTAMN

Q) cccc/Qqqqq/IV/BO/W/000/999/ddddNdddddE

A) ABCD

B) 2608101100 C) 2608161600

D) 2608101100 TO 2608101600

2608111100 TO 2608111600

2608121100 TO 2608121600

2608131100 TO 2608131600

2608141100 TO 2608141600

2608151100 TO 2608151600

2608161100 TO 2608161600

E) TEMPO DANGER AREA ACT

*STATE F AEROSPACE FLT ACT WILL TAKE PLACE FLW RECEIVED FM CAA OF
STATE F.*

*DUE TO AEROSPACE FLT ACT, THE SAFETY OF ACFT OPS WI THE FLW AREA
MAY BE AFFECTED.*

AREA BOUNDED BY PSN:

xxxxNxxxxxE – yyyyNyyyyyE – zzzzNzzzzzE – aaaaNaaaaaE

RMK: ATS RTE A123 BTW CCCCC and DDDDD NOT ABVL

ATS RTE A456 BTW EEEEE AND DDDDD NOT ABVL

F) SFC G) UNL

On **7 August 2026**, three days before the beginning of the tentative launch window, you had still not received any update from State F. You therefore decided to keep the NOTAM in force as originally issued.

At **1700 UTC on 11 August 2026**, you received an update from State F advising that the actual launch would take place on **14 August 2026**. You subsequently issued an updated NOTAM.

As a result, unnecessary NOTAM restrictions remained in effect on **10 and 11 August 2026**, and these may have affected the operations of some aircraft.

Questions for discussion

Q1-1 From the perspective of the launching State, how should **State F** have handled this situation?

Q1-2 From the perspective of the affected State/FIR, how should you have handled this situation, including decisions relating to the issuance, maintenance, amendment or cancellation of NOTAM?

Q1-3 What coordination mechanisms, decision points, or contingency measures could have helped to minimise unnecessary operational impact on airspace users while maintaining safety?

Q1-4 If this scenario highlights any need to update the *APAC Regional Guidance for Space Object Launch and Re-entry Activities Coordination*, please record the proposed amendment(s) in the **Comment Matrix**.

Scenario 2 – Short-notice launch notification over a weekend

On **Sunday, 5 April 2026**, your State unexpectedly received an email and a message through AFTN from the point of contact (POC) of the launching State (**State G**) advising that a ballistic launch would be conducted at 0400 UTC on **Monday, 6 April 2026**.

The notification included basic information on the launch timing and the potentially affected area. However, **no prior coordination had been undertaken** with your State before the email/AFTN message was sent. In addition, **no telephone call, teleconference, online coordination meeting, or other direct coordination mechanism** was proposed or arranged by **State G** to discuss the operational impact of the launch or the measures required to ensure the safety and efficiency of civil flight operations.

As the affected State, you had only limited time to assess the impact on air traffic operations, coordinate internally and externally, consider possible ATFM or airspace management measures, and issue any necessary aeronautical information to airspace users. In particular, as the notification was sent on a **Sunday**, there was a possibility that the designated POC or relevant operational staff in the affected FIR might **not be immediately available** to receive, assess and act upon the information in a timely manner.

Questions for discussion

Q2-1 From the perspective of the launching State, how should **State G** have handled this situation, taking into account the need for timely coordination and the possibility that the affected FIR's POC may not be readily available on a weekend?

Q2-2 From the perspective of the affected State/FIR, how should you have responded to this notification under such time-critical circumstances?

Q2-3 What coordination mechanisms, notification arrangements, or fallback procedures should be in place to address short-notice notifications, particularly outside normal working hours?

Q2-4 Following the activity, how should the Launching State Appropriate ATS Authority and the affected Appropriate ATS Authorities conduct a post-activity review, including the collection of stakeholder feedback, in order to identify lessons learnt and improve future launch and re-entry related airspace management and coordination?

Q2-5 If this scenario highlights any need to update the *APAC Regional Guidance for Space Object Launch and Re-entry Activities Coordination*, please record the proposed amendment(s) in the **Comment Matrix**.

Scenario 3 – Mismatching coordinates between coordinated and published danger areas

In several recent cases relating to space object launch and re-entry activities, mismatches were identified between:

- the **danger areas coordinated by the Launching State**, and
- the **danger areas subsequently published by the affected Appropriate ATS Authority/ANSP through NOTAM**.

In the examples shown in **Figure 1**, the **red outlines** represent the danger zones based on the coordinates published in the relevant NOTAM, while the **white outlines** represent the danger zones as originally defined and coordinated by the Launching State.

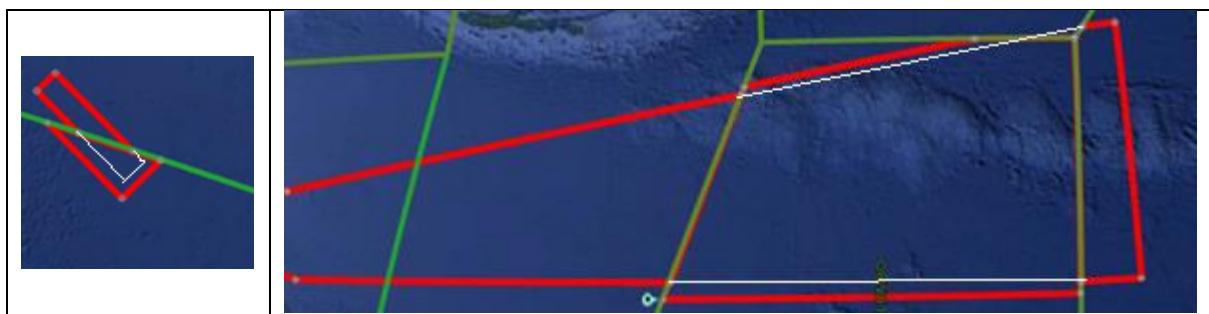


Figure 1: Examples of mismatching coordinates

One possible contributing factor to these mismatches is that the adjacent affected Appropriate ATS Authority/ANSP may have added **supplementary buffer areas (approximately 10 NM)** to the coordinated danger areas as a precautionary measure before publishing the NOTAM.

While the intention of enhancing safety is understandable, it should also be recognised that the Launching State, in accordance with established international practice, is responsible for ensuring the adequacy of the defined danger areas. These danger areas are expected to be carefully determined on the basis of comprehensive risk assessments, including appropriate safety margins.

These examples highlight the importance of strengthened **pre-launch coordination mechanisms** to ensure that danger areas are consistently defined, understood and published in a harmonised manner through the relevant NOTAMs issued by the Appropriate ATS Authorities.

They also underline the importance of **clear and unambiguous communication** as a preventive control measure in safety risk management. In addition, **regional collaboration**, including simulation exercises, workshops and engagement with airlines and other airspace users, may help identify and resolve such inconsistencies and ensure that operational perspectives are adequately reflected.

Questions for discussion

Q3-1 From the perspective of the Launching State, how should danger areas be coordinated with affected States and Appropriate ATS Authorities to minimise the risk of mismatch between the coordinated area and the published NOTAM?

Q3-2 From the perspective of the affected Appropriate ATS Authority/ANSP, under what circumstances, if any, would it be appropriate to adjust or expand the coordinated danger area before publishing a NOTAM? If such adjustment is considered necessary, how should this be coordinated with the Launching State and other affected parties?

Q3-3 What risks may arise when the danger area published in a NOTAM differs from the area originally coordinated by the Launching State, and what measures could be taken to prevent operational confusion or misinterpretation by airspace users?

Q3-4 What coordination mechanisms, review processes, or practical tools could help ensure that danger area coordinates are consistently defined, cross-checked and published in a harmonised manner across all affected FIRs?

Q3-5 If this scenario highlights any need to update the *APAC Regional Guidance for Space Object Launch and Re-entry Activities Coordination*, please record the proposed amendment(s) in the **Comment Matrix**.
