



International Civil Aviation Organization

**The Third Meeting of the APANPIRG ATM Sub-Group
(ATM /SG/3)**

Bangkok, Thailand, 03-07 August 2015

Agenda Item 5: ATM Coordination (Meetings, Route Development, Contingency Planning)

ROCKET LAUNCH AIRSPACE CLOSURES

(Presented by IATA)

SUMMARY

This paper presents an overview of issues faced by airlines due to the frequent closure of large portions of airspace for rocket launches and proposes certain measures to reduce the impact on flights.

1. INTRODUCTION

1.1 In our region there has been consistent growth in the Space and Missile Industry; with almost monthly rocket launches taking place. To facilitate these launches large portions of airspace are required to be closed.

1.2 These closures have a very significant impact on airline operations. The management of the timing of closure (and in particular the cessation of the closure) is often not well coordinated between stakeholders.

1.3 The purpose of this paper is to:

- provide an overview of the issues faced by airlines during these frequent large airspace closures;
- identify areas that need improved co-ordination; and
- propose certain measures to minimise the impact on airline flights.

2. DISCUSSION

2.1 To facilitate rocket launches, ANSPs are required to create temporary Danger Areas that spread across several FIRs. Airline experience shows an urgent need to improve co-ordination among ANSPs, as well as airlines, which addresses the following areas:

2.2 Advance Notice: Advance notice is essential in order for airlines to be able to manage the impact on:

- flight schedules;
- Network Operations (i.e. flight connections);
- overflying clearances (obtain necessary overflying clearances from additional countries that would be overflown for alternate routes avoiding the danger areas).

2.3 Launch Windows: Typically a launch is completed within a window of approximately 30 minutes. However, airspace is usually closed by NOTAM for four to eight hours.

2.4 Launch Cancellations: Information about launch cancellations on specific days is not disseminated in time.

2.5 Launch Timing: The launch timing windows are set during busy traffic hours.

2.6 Opening of airspace post launch: Frequently, NOTAMs are not cancelled immediately by all affected FIRs.

2.7 Each launch means additional cost to airlines due to:

- Cost of additional airborne time (fuel burn, maintenance, Crew etc.) for flying longer alternate routes;
- Cost of delays (disturbance to flight schedules and network operations, missing connections, passenger hotel accommodation etc.);

- IATA has reports from member airlines that these costs can exceed USD250,000 for each launch.

Way Forward

2.8 Improved Co-ordination: The impact of large airspace closures can be reduced by enhancing co-ordination among the stakeholders. Appendix A provides suggested measures to be considered.

2.9 Offsetting the Cost impact on airlines: Frequently, space launches are commercial in nature. IATA requests States to consider a compensation mechanism to offset the costs incurred by airlines when avoiding commercial launch areas.

3 ACTION BY THE MEETING:

3.1 The meeting is requested to:

- a) Develop Guidance material for the co-ordination and management of large airspace closures due to rocket launches; (*Appendix A proposals refer*)

3.1 Appendix: A

Proposed Measures to improve Co-ordination among stakeholders to efficiently manage large airspace closures during Rocket launches (Space program, Missile Test firings):

1. Launch facilities:
 - Majority of the launches (Space or Missile Test) takes place from predefined launch pads. This enables analysis of affected routes and planning alternate routes and strategies. States to consider setting up / shifting the launch pads to areas that avoid busy air traffic routes.
 - For Mobile launchers, states should consider that such launches should take place only in the airspace that has low air traffic density.
2. Scheduling launch timings:
 - If the launch requires closure of another state's controlled FIR (that is generally the case) then the launching state should cross check with other ANSPs on the suitable timings (off peak hours) to minimise the impact on flights.
3. Time based structured co-ordination:
 - Published airspace closure Window: At least Two Working weeks' notice;
 - Definitive Launch Window: At least three days' notice;
 - Actual planned hours and Dates: At least 24 hours' notice;
 - Real Activation Time Window: As the countdown begins / at least four hours prior; and
 - End of activity: Immediate withdrawal of NOTAMs by all ANSPs.
4. Structured Co-ordination process:
 - Primary Nodal Officer: The FIR where Launch is taking place should identify a Primary Nodal Co-ordinator for each such activity. Contact details (viz telephone, Mobile, email, telex, fax) should be published along with airspace closure window. This officer should be available for co-ordination with airlines as well as with other FIRs in case of any difficulties eg. non-acceptance of flight plans by other neighbouring FIR
 - Secondary Nodal coordinator: Other ANSPs where airspace is closed should also identify a Contact person, contact details also to be provided in respective FIR's NOTAM. This officer needs to be available during the airspace closure window and should be authorised to take AIS action for withdrawal of airspace closure NOTAMs as soon as the "launch over" confirmation is received from the Primary Nodal officer.