



AIRSPACE INFRINGEMENT

1. Introduction

Airspace infringement occurs when an aircraft penetrates airspace for which explicit prior clearance is required without having such a clearance

A major cause of airspace infringement is poor navigation, leading to penetration of the controlled airspace or danger, restricted or prohibited area concerned.

2. Contributory Factors and Effects

The contributory factors:

- Lack of knowledge or understanding of procedures for obtaining clearance to enter or cross controlled airspace
- Failure to follow correct procedures for crossing or entering controlled airspace
- Inadequate basic training in appropriate navigational techniques
- Lack of expertise of pilots in equipment operation, especially GPS
- Adverse weather
- Inadequate pre-flight preparation
- Routine (assumption that airspace restrictions on a familiar route will not change) Frequency congestion;
- Pilot preoccupation with other tasks.
- Unfavourable attitude of ATC controllers to VFR flights

Here are the major effects of airspace infringement (we present only the effects linked with IVAO):

- Loss of Separation from other aircraft, which may result in collision
- Perceived security risk if area is penetrated
- Disruption of military or other special activities within restricted, danger or prohibited airspace
- Distraction of controller from other tasks

3. Example of airspace infringement

3.1. Air traffic controller effect

An aircraft approaching an area requests crossing clearance:

- The frequency is busy and the controller instructs the pilot to "Stand by". The pilot continues on track and enters the area without any clearance.
- The controller acknowledges the call but does not immediately approve the request. The pilot assumes that the acknowledgement constitutes clearance and enters the airway.

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3.2. Pilot effect

An aircraft operating VFR doesn't properly identify his position on the ground due to partial cloud cover and enters the controlled airspace without permission.

A pilot navigating by reference to NDB and/ VOR beacons makes an error in determining his position and enters a Restricted/Danger/Prohibited area.

A pilot, using GPS, incorrectly programs the equipment and follows a track which diverges from the planned route, and enters a Restricted/Danger/Prohibited area.

A pilot using an out of date chart enters the Restricted/Danger/Prohibited area without awareness.

4. Solutions to reduce airspace infringement

Solutions shall include improved training of pilots in navigation techniques, including:

- Visual navigation
- Use of radio navigation aids
- Use of GPS
- Transponders to enable aircraft to be identified by ATS and to enable TCAS alerts

There are solutions for a pilot perspective:

- Improve airspace infringement awareness
- Be prepared and call air traffic controller well in advance (3 to 5 minutes flying time)
- Use the correct phraseology to obtain the clearance you want without confusion
- Think about what you are going to say before you press the transmit switch
- Be aware that air traffic controller may be busy even if the controller isn't talking on the frequency
- Remember that the instruction "Standby" is not a clearance
- Remain outside controlled airspace if you don't have any clearance
- Effective Pre-flight briefing
- If the weather starts to deteriorate, consider your options early
- Use the correct charts up to date
- Check your transponder active using Traffic alert (via IvAp)

There are solutions for an air traffic controller perspective:

- Flight Information Services to VFR flights based on the use of radar
- Aeronautical and meteorological information to VFR flights
- Expect the unexpected
- Area Proximity Warning (APW) that can alert controllers of potential or actual infringements (not simulated in IVAO)
- Review airspace design (only for national regulation authorities)

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