



WORKING PAPER

THIRTEENTH AIR NAVIGATION CONFERENCE

Montréal, Canada, 9 to 19 October 2018

COMMITTEE A

Agenda Item 5: Emerging issues

5.1: Operations above Flight Level 600

OPERATIONS ABOVE FLIGHT LEVEL 600

(Presented by the Secretariat)

EXECUTIVE SUMMARY

This paper presents an overview of operations generally above Flight Level 600. It provides information about the status of operations and as well as details relevant to its safe and, orderly growth. While the current and near-term, lower density operations can be accommodated within the existing Standards, there is a need to develop initial guidance material to address regulatory aspects. Beyond the near term, the global community should review the extent to which operational and technical issues need to be resolved to safely accommodate significantly higher density traffic levels of these operations. The paper also suggests that the term “higher airspace operations” be used to refer to this subject.

Action: The Conference is invited to agree to Recommendation 5.1/x — Higher airspace operations in paragraph 3.1.

<i>Strategic Objectives:</i>	This working paper relates to the Safety and Air Navigation Capacity and Efficiency Strategic Objectives.
<i>Financial implications:</i>	<i>Impact for the aviation community:</i> States that will engage in higher airspace operations will need to invest in their regulatory programmes to ensure their safe and integrated operations. The industry will need to participate (and invest) in the collaborative decision-making processes established within civil aviation to ensure that all airspace users are provided equitable access. <i>Impact for ICAO (relative to the current Regular Programme Budget resource levels):</i> Since ICAO’s current Standards and Recommended Practices (SARPs) development and implementation roll-out will continue over the next triennia, additional resources are required, both financial and human, to support ICAO’s efforts in the highly specialized areas associated with high altitude operations.
<i>References:</i>	A39-WP/504, P/39

1. INTRODUCTION

1.1 “Flight Level 600” has over the last few years become an unofficial label to represent those new types of operations that tend to be deployed within a general range of airspace from 60 000 to 90 000 feet. As this overly specific flight level may cause confusion, this paper will refer to “higher airspace operations”. These include high altitude balloons, solar-powered flying-wings, and airships, many of which provide or will potentially provide communications services to areas that are underserved or to people affected by or responding to natural disasters. Many of the aircraft are involved in long duration flights. The past few years have seen increasing traffic of these types of aircraft from, to and over more and more States. In addition to the existing aircraft, several others – from super-sonic civil jets to balloons that will reach more than 140 000 ft. — are in various stages of development.

2. DISCUSSION

2.1 At the Second Global Air Navigation Industry Symposium (GANIS/2, Montreal, 11 to 13 December 2017), the aviation community was briefed on the current state of higher airspace operations. This included recent and ongoing operations providing internet services to remote areas or in the aftermath of natural disasters. Widespread global demand for such services, which are essential to the pursuit of the United Nations Sustainable Development Goals, is expected.

2.2 During GANIS/2, it was also evident that while the current number of operations is relatively low, it is projected to increase significantly in the coming years. This growth will be in the actual number of international civil operations, the number of States involved and in the diversity of new aircraft types. Based on the information presented at GANIS/2, these will very likely include a large number of unmanned aircraft, supersonic transport, long duration operations and hybrid vehicles (e.g. a capsule that detaches from a balloon and glides back to the ground).

2.3 At the First Safety and Air Navigation Implementation Symposium (SANIS/1, Montreal, 13 to 15 December 2018), the regulatory and air navigation services provider (ANSP) community that had experience with these types of operations provided information on how such operations were enabled, often in areas with limited infrastructure. While these new emerging airspace users and their regulators needed to develop innovative policies and practices, they also managed the public interests (vis-a-vis these operations) within the existing framework of global Standards and policies. However, this may not be the case if there is a significant growth in this traffic.

2.4 The 39th Session of the ICAO Assembly had also noted that some existing higher airspace operations initiatives directly supported the United Nations Sustainable Development Goals 9 and 17. In doing so the Assembly encouraged the use of aviation solutions compliant with Standards and Recommended Practices (SARPs) and that assist in the achievement of the SDGs (A39-WP/504, P/39 refers).

2.5 While no new Standards are required in the near term, for the higher airspace operations sector to enjoy a safe and orderly growth in the mid-term, the global community should analyse potential issues that may arise from large numbers of such operations. These issues could include the following:

- a) integration of these operations into the global air navigation system as they ascend and descend through airspace shared with conventional traffic, in accordance with all rules of the air;

- b) management of higher airspace taking into account new aircraft capabilities and that there would be no legacy civil aircraft at the altitudes in which these new entrants operate; and
- c) unconventional flight profiles of some new aircrafts (e.g. “loitering” over a small geographic area for a long period or the “swarming” of balloons).

2.6 In these early stages, cooperation between new airspace users will be needed to reduce the potential for future inefficiencies. It was therefore encouraging that at GANIS/2 the industry indicated that they were working as a community to consider and propose solutions to potential risks and other issues. This includes the development (within one Member State) of a set of principles to ensure access and equity while maintaining an acceptable level of safety.

2.7 Nevertheless, the global community should monitor the developments to identify opportunities for potential harmonization and act in a timely manner thereon.

2.8 Based on the experience of regulators (including those shared at SANIS/1) in enabling higher airspace operations and considering that such operations will expand to other States, ICAO guidance will be needed for regulators on how to accommodate new aircraft within existing global Standards and policies. In addition, requests from States unfamiliar with these types of operations for ICAO and the community to provide assistance can be expected.

2.9 It should be noted that as higher airspace operations develop and evolve, all aspects within the scope of the Global Air Navigation and Global Aviation Safety Plans will be implemented by ICAO through the well-established processes for assigning technical work to relevant expert groups.

3. CONCLUSION

3.1 As outlined above, higher airspace operations have progressed over the past few years. This trend is expected to continue in the coming years. To ensure that it does so in a safe, efficient and harmonized manner, the Conference is invited to agree on the following recommendation:

Recommendation 5.1/x — Higher airspace operations

That the Conference:

- a) note the developments in higher airspace operations and that the number of aircraft and the geographic areas of higher airspace operations continue to grow;
- b) request ICAO to provide guidance, and as necessary other provisions, on the regulatory aspects of higher airspace operations;
- c) request ICAO to work with States and the industry to identify issues affecting the global air navigation system and to proactively address harmonization;
- d) request States that have regulated higher airspace operations to share, through ICAO where appropriate, their experience and expertise with other States; and
- e) request States to provide, through ICAO and upon request, assistance to other States on the regulatory aspects of higher airspace operations.

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