International Civil Aviation Organization

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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

INDUSTRY VIEWS ON OPERATIONS ABOVE FLIGHT LEVEL 600

(Presented by the International Coordinating Council of Aerospace Industries Associations (ICCAIA))

EXECUTIVE SUMMARY

This paper presents the views of the International Coordinating Council of Aerospace Industries Associations (ICCAIA) on operations of high altitude long endurance unmanned aircraft systems (HALE UAS)/lighter-than-air (LTA) craft. Although no new standards are presently required, in order to enable safe and orderly expansion of higher airspace operations, the global community, in partnership with industry, should analyse potential issues this forecasted expansion may cause. We recommend moving forward on this shared endeavour with some key principles, outlined in this paper and echoed in the ICAO *Global Air Navigation Plan* (GANP, Doc 9750) and the *Global Air Traffic Management Operational Concept* (GATMOC, Doc 9854).

Action: The Conference is invited to agree to the recommendation contained in paragraph 3.1.

1. INTRODUCTION

1.1. Of the myriad of new technologies sharing our skies today, perhaps the most hopeful and innovative aircraft are the diverse array of high altitude long endurance unmanned aircraft systems (HALE UAS)/lighter-than-air (LTA) craft. These human-in-the-loop, highly automated craft conduct higher airspace operations (above FL600 up to approximately 50 km) for periods of 90 days and beyond.

1.2. While the current density of operations is relatively low, this number is projected to increase. As such, the HALE industry believes that States, manufacturers and operators must collaboratively develop risk and performance-based regulatory initiatives to ensure all airspace users are provided safe and equitable access.

1.3. Although no new standards are presently required, in order to enable safe and orderly expansion of higher airspace operations, the global community, in partnership with industry, should analyse potential issues this forecasted expansion may cause. As in the case of remotely piloted aircraft

[1] English, Arabic, Chinese, French, Russian and Spanish versions provided by ICCAIA.

systems (RPAS), a common understanding and development of accommodation of best practices would be beneficial as a precursor to new regulations.

2. KEY PRINCIPLES

2.1. We recommend moving forward on this shared endeavour with the following key principles, which are echoed in the ICAO *Global Air Navigation Plan* (GANP, Doc 9750) and the *Global Air Traffic Management Operational Concept* (GATMOC, Doc 9854):

a) uniform airspace organization and management principles will need to be applicable to all regions;

b) global principles will be applicable at all levels of density and will affect total traffic volume;

c) airspace management processes will need to accommodate diverse and dynamic flight trajectories and provide optimum system solutions for all airspace users both manned and unmanned;

d) when conditions require that different types of traffic be segregated by airspace organization, the size, shape and time regulation of that airspace will be set to minimize the impact on all operations equitably;

e) complexity of operations may pose limitations on the degree of flexibility;

f) airspace use will be coordinated and monitored in order to accommodate the conflicting legitimate requirements of all users minimizing constraints on operations;

g) for operations lasting longer than 24 hours, airspace reservations will be expected and planned in advance with changes made dynamically whenever possible. As occurs today, the system will also accommodate unplanned requirements; and

h) structured route systems will be applied only where required to enhance capacity or to avoid areas where access has been limited or where hazardous conditions exist. Otherwise, airspace management principles will remain as flexible as practicable.

3. CONCLUSION

3.1 The Conference is invited to agree to the following recommendation:

Recommendation 5.1/x – Operations above FL600

That the Conference:

a) note the HALE industry has accepted and is supporting the principles outlined in the GANP and GATMOC documents above;

b) note the HALE industry appreciates the efforts that ICAO has made with the drone enable events to expedite implementation of new concepts;

c) note that the HALE industry is working cooperatively with other industry members on activity not under ICAO's remit to provide synergy between evolving lower and higher airspace concepts;

d) request ICAO develop near-term guidance material enabling States to adopt a consistent general approach to accommodating international higher airspace operations; and

e) request States which will be the beneficiaries of higher airspace operations (supportive of the UN Sustainable Development Goals (SDGs)) to agree to consider risk-based operational trials in their airspace, enabling economic benefits.

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