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INFORMATION PAPER

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**Agenda Item 4: NAM/CAR Regional Safety/Air Navigation Implementation
4.2 Air Navigation Implementation Matters**

ICAO'S ROLE IN THE SAFE INTEGRATION OF SPACE ACTIVITIES INTO THE AIRSPACE SYSTEM

(Presented by United States)

EXECUTIVE SUMMARY

This paper presents the United States' position regarding the International Civil Aviation Organization's (ICAO) role in supporting the safe integration of space activities into the airspace system. The United States defines space transportation activities to include suborbital launches, orbital launches and re-entries, and spaceport operations. The United States strongly affirms that the development of any binding standards or guidance material relating to the space transportation industry by any international entity is premature. ICAO was created to harmonize standards and recommended practices (SARPs) and promote safety related to civil aviation. As a result, ICAO has a role in supporting the safe airspace integration of space operations. This limited domain is consistent with ICAO's authorities and mandate to promote the development of international civil aviation operations.

References:

- ICAO Resolution A40-7
- ICAO Resolution A40-26
- ICAO Resolution A41-9
- ICAO Doc 10066 (Procedures for Air Navigation Services (PANS): Aeronautical Information Management (AIM))
- Article 37 of the Chicago Convention

1. INTRODUCTION

1.1. During the 13th Air Navigation Conference (AN-Conf/13) in October 2018, the ICAO Council President stated that it was time for ICAO to position itself as a leader in global standardization for the commercial space sector. At the 40th Triennial Assembly of ICAO in 2019, resolution A40-7 directed ICAO to review SARPs to facilitate the operation of commercial space vehicles and called on Member States to “arrange their regulations and procedures governing the operation of New Entrants¹, as well as the

¹ A40-7 states, “for the purposes of this Resolution, the term ‘New Entrants’ refers to higher airspace and unmanned aircraft system (UAS) traffic management (UTM) operations.” This was updated in A41-9 to replace “higher airspace” with “higher airspace operations (HAO).”

common use by all airspace users of certain facilities and services so as to facilitate the integration of these operations.” Resolution A40-26 reaffirmed the role of ICAO in “developing policy guidance in the areas where international CST [commercial space transportation] operations intersect with international civil aviation” and for coordination to “monitor the progress and evolution of commercial space transport and to address emerging issues, including the impact on international civil aviation operations.”

1.2. Unlike ICAO and its relationship to civil aviation, neither the Committee on the Peaceful Uses of Outer Space (COPUOS) nor the United Nations Office for Outer Space Affairs (UNOOSA) develops standards for the commercial space sector. Their purpose is to promote international cooperation in the peaceful use of outer space and facilitate multilateral treaties. For example, UNOOSA technical working groups like the Interagency Debris Coordinating Committee, develop technical recommendations for all space operations. These forums provide recommendations recognized by most State space oversight bodies as starting points for national legal and regulatory frameworks to govern space activities. The recommendations and frameworks developed by UNOOSA and COPUOS are not binding. The United States strongly affirms that the development of any binding standards or guidance materials relating to the space transportation industry by any international entity is premature. The Convention on International Civil Aviation (Chicago Convention) requires States to comply with the SARPs for international civil aviation. However, space operations are not civil aviation operations, and space vehicles are not aircraft.

1.3. Article 37 of the Chicago Convention requires States to secure “the highest practicable degree of uniformity in regulations, standards, procedures, and organization in relation to aircraft, personnel, airways and auxiliary services in all matters in which such uniformity will facilitate and improve air navigation.” To this end, ICAO’s mandate to adopt and amend SARPs is exclusively related and limited to international civil aviation.

2. DISCUSSION

2.1. The United States defines space transportation activities to include suborbital launches, orbital launches and re-entries, and spaceport operations.

2.2. The United States supports ICAO involvement in airspace management of space transportation activities, including Notice to Air Missions (NOTAM) coordination and related Air Traffic Controller procedures. State space regulators are charged with oversight of public safety related to commercial space operations and the operation of spaceports. ICAO correspondingly plays a fundamental role in ensuring the safety and security of the international civil aviation community. Therefore, the implementation of state space regulator-defined hazard areas should be integrated into airspace systems in a harmonized manner.

2.3. The United States acknowledges that there is an increasing frequency of space activity. Current NOTAM coordination procedures outlined in ICAO Doc 10066 (Procedures for Air Navigation Services (PANS): Aeronautical Information Management (AIM)) have laid the groundwork for coordination of appropriate airspace management measures. Regional development of best practices for managing airspace safety and promoting system efficiency during space transportation activities would be beneficial.

2.4. The United States continues to hold the view that there is no need to seek a legal definition or delimitation for outer space. Currently, there is no international consensus on where such a boundary would be and no agreed-upon operational benefits to defining such a boundary with respect to airspace integration. The United States supports ICAO's development of guidance material that Civil Aviation Authorities and Air Navigation Service Providers can use to help facilitate the safe navigation of aircraft around space activity without defining a boundary between airspace and space.

3. CONCLUSION

3.1. Space transportation is experiencing significant growth, technological innovations, and dynamic changes. The United States strongly affirms that any development and implementation of international space standards by ICAO would be outside the mandate and scope of its authorities.

3.2. The United States supports ICAO involvement in airspace management in support of the integration of space operations into the airspace system. ICAO plays a fundamental role in the safety and security of the international civil aviation community. ICAO's support in the integration of space transportation activities with civil aviation will further advance both priorities globally.