



LETTER OF AGREEMENT

EFFECTIVE: DECEMBER 3, 2020

SUBJECT: CANSO ATFM DATA EXCHANGE NETWORK FOR THE AMERICAS (CADENA) SPACE LAUNCH AND RECOVERY PROTOCOLS

The participating CADENA Air Navigation Service Providers (ANSPs) and the Federal Aviation Administration (FAA) Air Traffic Organization (ATO) Space Operations office (ATO Space Ops) enter into this Letter of Agreement (LOA) to facilitate the safe and efficient movement of space launch and recovery between and through participating ANSP flight information regions (FIRs).

1. PURPOSE: The purpose of this LOA is to facilitate the safe and efficient movement of space launch and recovery operations between and through participating ANSP FIRs. This LOA promotes communication, collaboration, and coordination between the participating ANSPs and ATO Space Ops regarding space launch and recovery operations. The information shared among participating CADENA participating ANSPs and stakeholders is for the sole purpose of aviation safety.

2. SCOPE: This agreement establishes a common regional, cross-border air traffic management (ATM) communications protocol, a seamless operational atmosphere that incorporates common operating procedures and practices, and a performance reporting and review structure and process. The operations described herein are for use by participating CADENA ANSPs and ATO Space Ops to provide space launch and recovery information. This LOA is a non-binding regional operational agreement and is not intended to replace any local agreements or any other LOAs between participating ANSPs.

3. BACKGROUND:

a. CANSO's main objective is to support its Members and participating stakeholders in the provision of safe, efficient and cost-effective air navigation services worldwide. The CANSO Operations Standing Committee (OSC) provides operational leadership and expertise in the implementation of ATM improvements, including commercial space operations, and identifies future technologies and procedures to help transform global ATM performance. The collaborative work of the OSC with the CANSO Regional Directors is instrumental in helping Members achieve seamless airspace globally.

b. The ATO Space Ops main objective is the integration of launch and reentry missions in a safe and efficient manner.



c. This LOA is in alignment with the practices and procedures specified in the International Civil Aviation Organization *Manual on Collaborative Air Traffic Flow Management (Doc 9971)*.

4. RESPONSIBILITIES:

a. ATO Space Ops will:

- i. Brief scheduled launch and reentry information during the CADENA Weekly Planning Web Conferences or during CADENA Ad Hoc Web Conferences and include, at a minimum, the following information:
 1. Defined Hazard Areas
 2. Proposed date and time of operation
 3. Backup dates and times of operation
 4. General mission information required for aviation safety
- ii. Post the associated launch and recovery Airspace Management Plan (AMP) on the ATCSCC CADENA OIS homepage – ATFM Daily Plan – Special Events.
- iii. Advise affected ANSPs of any changes to hazard areas in a timely manner through the appropriate communication channels, including but not limited to:
 1. Advisories posted on the CADENA OIS
 2. CADENA Chat within the CADENA OIS
 3. CADENA Ops WhatsApp group messages
 4. Direct phone calls to the relevant ANSP point of contact (POC)

b. Participating ANSPs will:

- i. List their published NOTAM number that is associated with the launch and recovery, as required by ICAO, on their CADENA OIS homepage under the ATFM Daily Plan – Other category for ease of retrieval.
- ii. Contact ATO Space Ops directly with the associated launch and recovery NOTAM number if they are unable to upload it onto the CADENA OIS.
- iii. Ensure that their flow management units (FMUs) serve as the primary points of contact for coordinating commercial space launch and recovery information.
NOTE: CADENA has established and maintains the point of contact list.

c. The CADENA RIG will establish a regional process to provide space launch and recovery performance feedback and will share lessons learned with the CADENA stakeholders.

5. SAMPLE NOTAM: Annex A contains a sample NOTAM that ANSPs can refer to when developing their own airspace debris re-entry NOTAMs.

6. IMPLEMENTATION: The procedures agreed in this LOA will be implemented by personnel at participating CADENA ANSPs and at the ATO Space Ops office at the FAA Air Traffic Control System Command Center (ATCSCC).

7. REVIEW PERIOD: Participants agree to participate in a yearly review of this agreement.



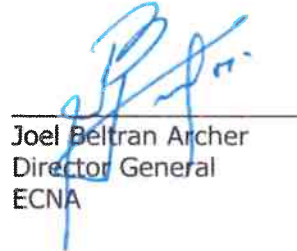
Teri Bristol
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Gabriela Logatto
President
EANA



Claudia Roa
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IDAC



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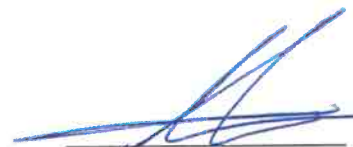
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Jamaica CAA



Micilia Albertus-Verboom
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ANNEX A
SAMPLE NOTAM

The following sample NOTAM is provided for ANSPs to use as a guide when developing their own airspace debris re-entry NOTAMS.

NTTT (TAHITI)

A0264/20 NOTAMN Q) NTTT/QRPCA/IV/BO/W/000/999/1315S13830W999 A) NTTT B) 2006121034 C) 2006131130 D) JUN 12 1034-1151 BACK-UP DAY JUN 13 1013-1130 E) PROHIBITED AREA -AIRSPACE DEBRIS RE-ENTRY IN TAHITI FIR WITHIN AN AREA BOUNDED BY FOLLOWING POINTS : 1621S13747W 0914S13453W 0102N12755W 0957N12133W 1619N11448W 1516N11301W 0744N11614W 0147S12206W 1025S12755W 1748S13531W TO POINT OF ORIGIN. -THIS AREA IS PROHIBITED DURING ACTIVITY. -THE FOLLOWING ROUTE SEGMENTS ARE FORBIDDEN: UN789 INVID-EKETI, G594 TIERE-TIAMU F) SFC G) UNL