



**Fourth GREPECAS–RASG-PA Joint Meeting and
Twenty-second Meeting of the CAR/SAM Regional Planning and Implementation Group
(GREPECAS/22)**

Virtual Phase (Asynchronous, 16 September to 11 October 2024)
In-Person Phase (Lima, Peru, 20 to 22 November 2024)

**Agenda Item 5: CAR/SAM Air Navigation Services (ANS) Implementation
5.1 Air Traffic Management (ATM), Airspace optimization, Air Traffic Flow
Management (AFTM) and Search and Rescue (SAR)**

**COORDINATION FOR THE ISSUANCE OF NOTICES
FOR SPACE VEHICLE LAUNCH AND REENTRY**

(Presented by the Secretariat)

EXECUTIVE SUMMARY

This information paper informs GREPECAS of the procedures that the Secretariat would implement, in coordination with the States, to organize actions between States and private companies to alert users about possible areas of airspace that could be affected by rocket launches and the re-entry of space vehicles into the Earth's atmosphere.

Strategic Objectives:

- Safety
- Air Navigation Capacity and Efficiency
- Environmental Protection

References:

- GREPECAS/20 Report, Salvador, Brazil, 16-18 November 2022

1. Introduction

1.1 At the Twentieth Meeting of GREPECAS (Salvador, Brazil, November 16-18, 2022), the United States expressed concern about the lack of coordinated action between space launch operations, as well as their re-entry into airspace, and airspace users.

1.2 The GREPECAS/20 Meeting took note of the information presented by the United States regarding space activities and coordination with airspace users (see working paper).¹

¹ [GREPECAS/20 \(icao.int\)](https://www.icao.int/GREPECAS/20)

1.3 Some companies have approached the GREPECAS Secretariat to express their concerns and request coordination procedures prior to launch operations between the launch authorities and airspace management authorities.

1.4 1.4 In 2010, Resolution A37-19 established very important objectives for the protection of the environment in international civil aviation.

1.5 1.5 The GREPECAS/20 Meeting, after analysing the information related to the topic, issued Conclusion 20/15 ANC NOTAM FOR AEROSPACE OPERATIONS.

2. Analysis

2.1 At the GREPECAS/20 Meeting, the United States, through NE/50, expressed its concern that the poorly coordinated action between space vehicle launch and re-entry operations and airspace users posed a danger to airspace users.

2.2 The United States stated that, decades ago, the infrequent occurrence of space launches and the low volume of aviation made these events less disruptive. However, the recent increase in space operations highlights the need for streamlined coordination between States and airspace users to ensure the continuity of safe and efficient operations for space activities and aviation.

2.3 The United States indicated that the safe and efficient integration of space operations into airspace systems requires the assessment, identification, and authorization of areas defined by predetermined risk tolerances based on system standards. The space launch authority determines the risk tolerance associated with space operations, while the air navigation service provider (ANSP) determines the acceptable level of safety within the airspace system.

2.4 Aircraft hazard areas (AHA) are used to characterize geographic zones subject to higher risk during space operations, which are defined by a series of points, associated dates, times, and durations. Once developed, ANSPs receive the AHAs for evaluation related to operational impact and the development of mitigation measures.

2.5 The dissemination of AHAs to airspace users should occur through NOTAMs (Notices to Air Missions) as Hazard Areas.

2.6 The GREPECAS/20 Meeting issued **Conclusion 20/15** - ANC NOTAM FOR AEROSPACE OPERATIONS, which contained four items (see pages 58 and 59 of the GREPECAS/20 report²).

2.7 The Meeting will recall that **item "c"** of the mentioned conclusion requested a Contact List of organizations to coordinate what was mentioned in the preceding lines. Similarly, **item "d"** urged the inclusion of information distribution regarding aerospace activity via email as a backup to distribution systems via AMHS.

² [GREPECAS20-FinalReport.pdf \(icao.int\)](#)

2.8 The Secretariat presents the proposed template for the Contact List, as requested in **item c**. This template also allows for the inclusion of email addresses, which would enable the distribution of information via email, thereby fulfilling the request made in **item d** of Conclusion 20/15. The proposed template is included as **Appendix A** to this working paper.

2.9 Secretariat urges States and air traffic service providers and aeronautical information providers to establish the necessary coordination procedures to address the requirements related to space launch operations. These procedures should be shared with the companies responsible for such operations.

2.10 Recently, companies and organizations responsible for space vehicle launches have contacted the Secretariat, expressing their concern over the persistent difficulties in coordinating with the authorities managing the airspace of certain FIRs prior to launch operations. They have requested mediation with the States to establish coordination procedures for the issuance of NOTAMs and other measures to maintain operational safety levels and situational awareness in regions that may be affected by launches (AHA).

3. Conclusion

3.1 Space activity, as well as air traffic, has potentially increased in recent decades.

3.2 Close coordination is necessary among those responsible for space launches, the authorities managing the airspace of FIRs, and airspace users to minimize the risks of potential incidents due to space operations.

3.3 The Secretariat will establish bilateral and multilateral meetings among States and organizations to agree on coordination procedures for space activity cases.

3.4 The Secretariat will follow up on the actions requested in **items c and d of GREPECAS Conclusion 20/15** through the ATM and AIM programs.

APÉNDICE A / APPENDIX A

**LISTA DE PUNTOS DE CONTACTOS OPERACIONALES PARA COORDINACIÓN DE LANZAMIENTO Y REINGRESO AL
ESPACIO AÉREO DE VEHÍCULOS ESPACIALES**

**OPERATIONAL CONTACT POINTS LIST FOR COORDINATION OF LAUNCH AND RE-ENTRY OF SPACE VEHICLES INTO
AIRSPACE**

ESTADO / STATE	Nombre / Name	Ind. Lugar OACI / ICAO Location Indicator	AFTN/AMHS	Teléfono / Telephone (24 horas / hours)	Fax (24 horas / hours)	E-mail
ARGENTINA						
FIR EZEIZA						
ACC	Ezeiza	SAEF	SAEZZRZX			
NOF	Ezeiza	SAEZ	SAEZYNYX			
FIR CORDOBA						
ACC	Córdoba	SACF	SACOZRZX			
FIR MENDOZA						
ACC	Mendoza	SAMF	SAMEZRZX			
FIR COMODORO RIVADAVIA						
ACC	Comodoro Rivadavia	SAVF	SAVCZRZX			
FIR RESISTENCIA						
ACC	Resistencia	SARR	SAREZRZX			
BOLIVIA						
FIR LA PAZ						
ACC	La Paz	SLLP	SLLPZRZX			
NOF	La Paz	SLLP	SLLPYNYX			
BRASIL/BRAZIL						
FIR AMAZONICA						
ACC	AMAZÓNICA	SBAZ	SBAZZRZX SBAZZQZX			
FIR BRASILIA						
ACC	BRASILIA	SBBS	SBBRZRZX			
FIR RECIFE						
ACC	RECIFE	SBRE	SBREYMYB			
FIR ATLANTICO						
ACC	Atlántico	SBAO	SBAOZRZX			
FIR CURITIBA						

ESTADO / STATE	Nombre / Name	Ind. Lugar OACI / ICAO Location Indicator	AFTN/AMHS	Teléfono / Telephone (24 horas / hours)	Fax (24 horas / hours)	E-mail
ACC	Curitiba	SBCW	SBCWZRZX			
NOF	Brasilia	SBBR	SBRJYNYX			
CHILE						
FIR ANTOFAGASTA						
ACC	Iquique	SCFA	SCFAZRZX			
FIR SANTIAGO						
ACC	Santiago	SCEL	SCELZRZX			
NOF	SANTIAGO	SCEL	SCELZPZX			
FIR PUERTO MONTT						
ACC	Puerto Montt	SCTE	SCTEZRZX			
FIR PUNTA ARENAS						
ACC	Punta Arenas	SCCI	SCCIZRZX			
PARAGUAY						
FIR ASUNCION						
ACC	Asunción	SGFA	SGASZQZX			
NOF	Asunción	SGAS	SGASYNYX			
PERU						
FIR LIMA-CALLAO						
ACC	Lima-Callao	SPIM	SPIMZQZX			
NOF	Lima-Callao	SPIM	SPIMYNYX SPIMYOYX			
URUGUAY						
FIR MONTEVIDEO						
ACC	Montevideo	SUEO	SUEOZQZX			
NOF	Montevideo	SUMU	SUMUYNYX			
FIR BARRANQUILLA						
ACC	Barranquilla	SKBQ	SKBQZQZX			
ACC	Bogotá	SKBO	SKBOZQZX			
NOF	Bogotá	SKBO	SKBOYNYX			
CUBA						
FIR HABANA						

ESTADO / STATE	Nombre / Name	Ind. Lugar OACI / ICAO Location Indicator	AFTN/AMHS	Teléfono / Telephone (24 horas / hours)	Fax (24 horas / hours)	E-mail
ACC	La Habana	MUHA	MUFHZQZX			
NOF	La Habana	MUHA	MUHAYNYX			
REPUBLICA DOMINICANA						
FIR SANTO DOMINGO						
ACC	Santo Domingo	MDCS	MDCSZQZX			
NOF	Ofic. NOTAM Intl.	MCSC	MDSYNYX			
ECUADOR						
FIR GUAYAQUIL						
ACC	Guayaquil	SEGU	SEGUZQZX			
NOF	Guayaquil	SEGU	SEGUYNYX			
GUYANA FRANCESAS						
FIR ROCHAMBEAU						
ACC	ROCHAMBEAU	SOCA	SOOZQZX			
NOF	ROCHAMBEAU	SOCA	SOOYNYX			
GUYANA						
FIR GEORGETOWN						
ACC	Georgetown	SYCJ	SYCJZQZX			
NOF	Timehri	SYCJ	SYCJYNYX			
HAITI						
FIR PORT AU PRINCE						
ACC	Port au Prince		MTEGZQZX			
NOF			MTPPYNYX			
HONDURAS						
FIR CENTROAMERICANA						
ACC	Tegucigalpa	MHTG	MHCCZQZX			
NOF	Tegucigalpa	MHTG	MHTGYNYX			
JAMAICA						
FIR KINGSTON						
ACC	Kingston		MKJKZQZX			
NOF			MKJPYNYX			
MEXICO						
FIR MAZATLÁN OCEANIC						
FIC	Radio Mexico	MMID	MMIDZQZX			
FIR MEXICO						
ACC	Centro Mexico	MMEX	MMEXZQZX			

ESTADO / STATE	Nombre / Name	Ind. Lugar OACI / ICAO Location Indicator	AFTN/AMHS	Teléfono / Telephone (24 horas / hours)	Fax (24 horas / hours)	E-mail
	Centro Merida	MMID	MMIDZQZX			
	Centro Mazatlan	MMZT	MMZTZQZX			
	Centro Monterrey	MMTY	MMTYZQZX			
NOF	México	MMM	MMMXYNYX			
ANTILLAS NEERLANDESAS						
FIR CURACAO						
ACC	Curacao		TNCFZQZX			
NOF			TNCCYNYX			
PANAMA						
FIR PANAMA						
ACC	Panamá	MPZL	MPZLZQZX MPPCSNAX			
NOF	Panamá	MPTO	MPTOYNYX			
PERU						
FIR LIMA-CALLAO						
ACC	Lima-Callao	SPIM	SPIMZQZX			
NOF	Lima-Callao	SPIM	SPIMYNYX SPIMYOYX			
SURINAME						
FIR PARAMARIBO						
ACC	Paramaribo	SMPM	SMPMZRZX			
NOF	Zanderij	SMJP	SMJPYFYX			
TRINIDAD Y TOBAGO						
FIR PIARCO						
ACC	Piarco	TTZP	TTZPZQZX			
NOF	Piarco	TTPP	TTPPYNYX			
UNITED STATES/ESTADOS UNIDOS						
FIR SAN JUAN						
ACC	San Juan	TJZS	TJZSZQZX			
NOF	San Juan		TJZSYNYX			
FIR NASSAU (LOWER AIR SPACE) AND MIAMI OCEANIC (UPPER AIR SPACE)						
ACC	Nassau	MYNA	MYNAZQZX			

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ESTADO / STATE	Nombre / Name	Ind. Lugar OACI / ICAO Location Indicator	AFTN/AMHS	Teléfono / Telephone (24 horas / hours)	Fax (24 horas / hours)	E-mail
ACC	Miami	KZMA	KZMAZQZX			
NOF	Nassau		MYNAYNYX			
VENEZUELA						
FIR MAIQUETIA						
ACC	MAIQUETÍA	SVZM	SVZMZRZX			
<i>NOF</i>	MAIQUETÍA	SVMI	SVMIYNYX SVMIYNYN			

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