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CRUZEX EXERCISE 2024

1 PRELIMINARY ARRANGEMENTS

1.1 PURPOSE

The purpose of this Aeronautical Information Circular (AIC) is to inform the users of FIR-RE (Sectors 1, 2, 3, 5 and 6) and all sectors of the TMA-NT about the operational procedures to be followed during the CRUZEX EXERCISE 2024.

1.2 SCOPE

The procedures and information described in this AIC are mandatory and apply to ATS units and SISCEAB users, operating within the areas presented in this document.

1.3 ANNEX

NIL

2 GENERAL PROVISIONS

2.1 ABBREVIATIONS

ACA	- Airspace Control Authority
ACM	- Airspace Control Measures
AGL	- Above Ground Level
AIC	- Aeronautical Information Circular
AOO	- Area of Operations
AOR	- Area of Responsibility
ATC	- Air Traffic Control
ATS	- Air Traffic Services
BANT	- Natal Air Base
CAG	- General Air Traffic
CAP	- Combat Air Patrol
CGNA	- Air Navigation Management Center
CINDACTA	- Integrated Center for Air Defense and Air Traffic Control
COMAO	- Composite Air Operations
COpM	- Military Operations Center
DECEA	- Department of Airspace Control
ExOp	- Operational Exercise
FAM	- Familiarization

FIR-RE - Recife Flight Information Region
FL - Flight Level
NM - Nautical Miles
ICA - Air Force Command Instruction
IFR - Instrument Flight Rules
ONU - United Nations
Recce - Recognition
SEAD - Suppression of Enemy Air Defenses
SISCEAB - Brazilian Airspace Control System
TMA-NT - Natal Terminal Control Area
UNL - Unlimited

2.2 CONTEXT OF EXERCISE

2.2.1 CRUZEX Exercise 2024 is a multinational air exercise carried out by the Brazilian Air Force, with the purpose of developing cooperation and relations between friendly Air Forces in Air Combat Operations. In this edition, the Exercise will bring together the following participants: South Africa, Germany, Argentina, Bolivia, Canada, Chile, Colombia, Spain, Estonia, United States, France, Hungary, India, Israel, Italy, Paraguay, Peru, Portugal, United Kingdom, Czech Republic, Sweden and Uruguay, and will take place from November 3 to 15, 2024.

2.2.2 The aircraft involved in the exercise will be based at BANT, in Parnamirim-RN, and control of these aircraft will be carried out by the Third Military Operations Center (COpM-3), located in the Third Integrated Center for Air Defense and Air Traffic Control – CINDACTA III, in Recife-PE.

2.2.3 The main objective of the CRUZEX Exercise 2024 is to develop cooperation and relations between Brazil and the participating Nations, sharing common experiences in Composite Air Operations – COMAO scenarios, involving various training missions, such as: Scanning, Escort, Intelligence, Surveillance and Reconnaissance, Attack, CAP, SEAD, Air Refueling, Airdrop, Personnel Drop, Recce and Air Early Warning (AEW).

2.3 AIR TRAFFIC MANAGEMENT

2.3.1 In all phases of the Exercise, from its planning phase to execution, flight safety for all Airspace users is the main value taken into consideration, followed by the concern to reduce impacts on General Air Traffic (CAG).

2.4 AIR TRAFFIC FLOW MANAGEMENT

2.4.1 With a view to reducing the impact on the flow of air traffic already established in the FIR-RE, the CGNA actively participates in the Exercise planning coordination, with the purpose of enabling the harmonization of air traffic flow management, based on flight intentions, and other activities related to air navigation, providing operational management of the current actions of Air Traffic Management processes and related infrastructure, aiming at the sufficiency and quality of services provided within the scope of the Brazilian Airspace Control System.

2.4.2 For regular aviation users, the CGNA has already carried out the needed coordination with the airlines to enable the continuity of the air transport services duly adjusted to the execution of the CRUZEX Exercise 2024.

2.4.3 For general aviation users, in addition to this Circular, NOTAM will be published with the pertinent information, and the FMC-RF contact details will be made available to solve any doubts and speed up the flow of air traffic during the Exercise period.

2.4.4 In the ACC-RE, there will be a flow control cell (FMC-RF), directly connected to the CGNA, operating 24 hours a day. Through this Cell, coordination may occur regarding the execution of CRUZEX Exercise 2024, including delays or changes due to meteorological or operational conditions. This will ensure safety and speed in the flow of air traffic in the Exercise region, enabling take-offs, landings, vectoring and clearances to mitigate the impact. Contact information with FMC-RF is available at the end of this Circular.

3 SPECIFIC PROVISIONS

3.1 AIR SPACE CONTROL MEASURES (ACM)

3.1.1 The use of airspace in the operations will be managed by ACM and associated procedures, which provide a procedural system for the passage of aircraft through Area of Operations (AOO) airspace with minimal risk. ACM describe a volume of airspace in which specific procedures must be followed.

3.1.2 The ACM can be corridors, routes, zones, areas, sectors, altitude blocks, levels, profiles, points, airways, volumes, etc. ACMs will also be used to separate traffic from sensitive airspace flow.

3.1.3 The main responsibility for traffic deconfliction remains, however, with the air crews, the ATS units and other units involved. The Airspace Control Authority (ACA) will select the most appropriate ACMs for the Area of Responsibility (AOR) and that correspond to the supported commander's mission. When necessary, the ACA may identify additional means.

3.1.4 The ACM are established within the AOR to allow friendly air operations to be conducted with minimal risk and to reduce mutual interference. Airspace users must comply with the activated ACM, within their exercise area.

3.1.5 The Air Navigation Management Center (CGNA) has defined more than 100 preferential routes to be used during the Exercise to reduce the impact on civil aviation.

3.1.6 The flights of the aircraft participating in the Exercise are scheduled to take place from 04 to 14 November 2024, from 10:30Z to 21:00Z.

4 AIR SPACE INVOLVED

The areas and corridors of the Exercise will encompass some of the FIR-RE sectors (Sectors 1, 2, 3,5 and 6) and all sectors of the TMA-NT, as shown in Figure 1.

4.1 DESCRIPTION OF AREAS AND CORRIDORS

4.1.1 COMAO (GND - FL500)

S 06°31.08' W 035°45.77'
S 07°04.07' W 036°08.45'
S 07°38.52' W 037°02.27'
S 07°45.33' W 036°56.58'
S 08°27.43' W 037°44.28'
S 05°46.23' W 039°10.08'
S 05°28.52' W 038°20.33'
S 05°36.55' W 038°13.30'
S 04°57.25' W 036°56.58'
S 05°22.73' W 036°22.47'

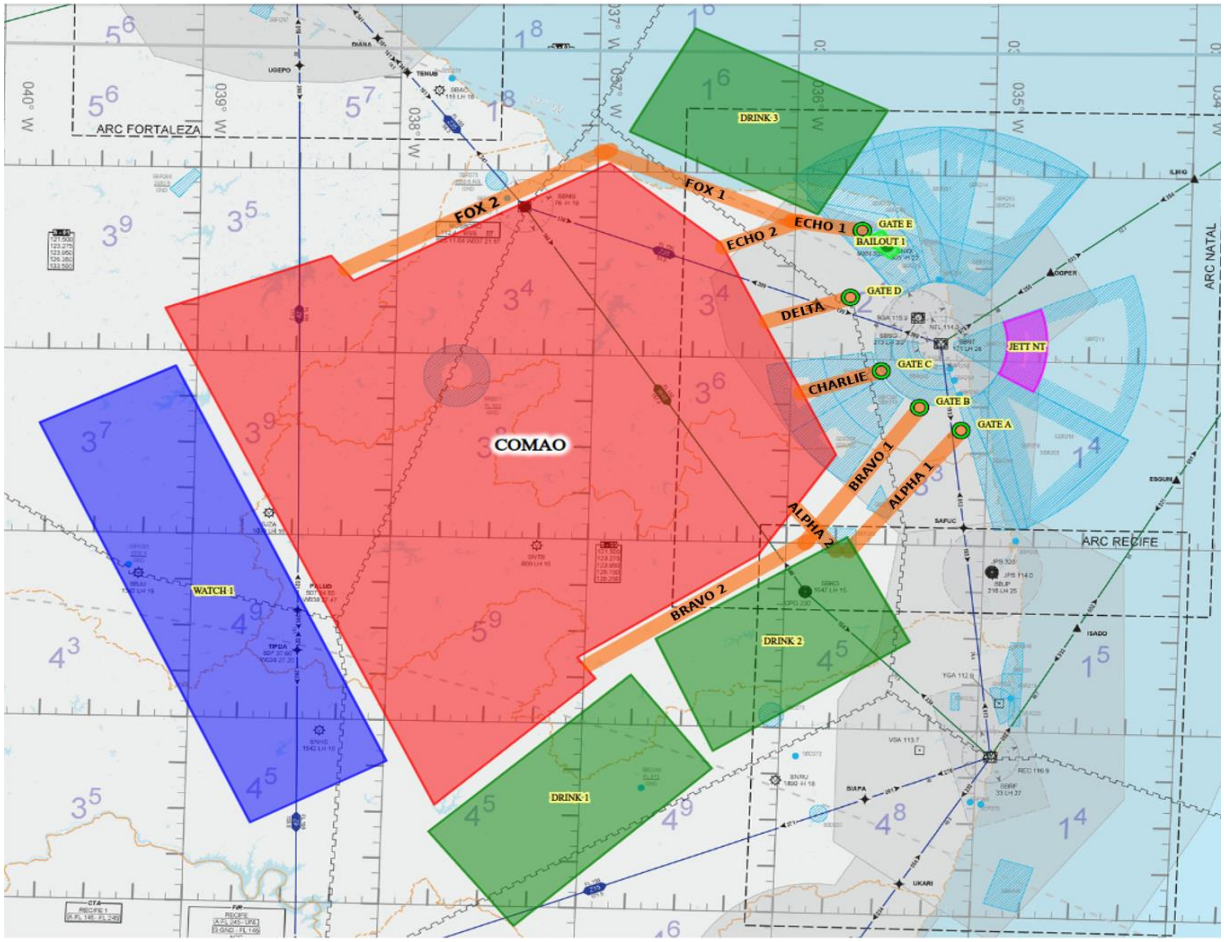

Figura 1 - CRUZEX 2024 Areas (COMAO)

4.1.2 FIT AREAS (GND – FL500)

4.1.2.1 Fit North

S 05°53.08' W 035°35.07'
S 05°54.77' W 037°54.45'
S 06°52.10' W 037°30.50'
S 06°02.43' W 035°33.63'

4.1.2.2 Fit South

S 06°02.42' W 035°33.67'
S 06°10.33' W 035°27.22'
S 07°46.75' W 037°07.73'
S 06°52.58' W 037°30.38'

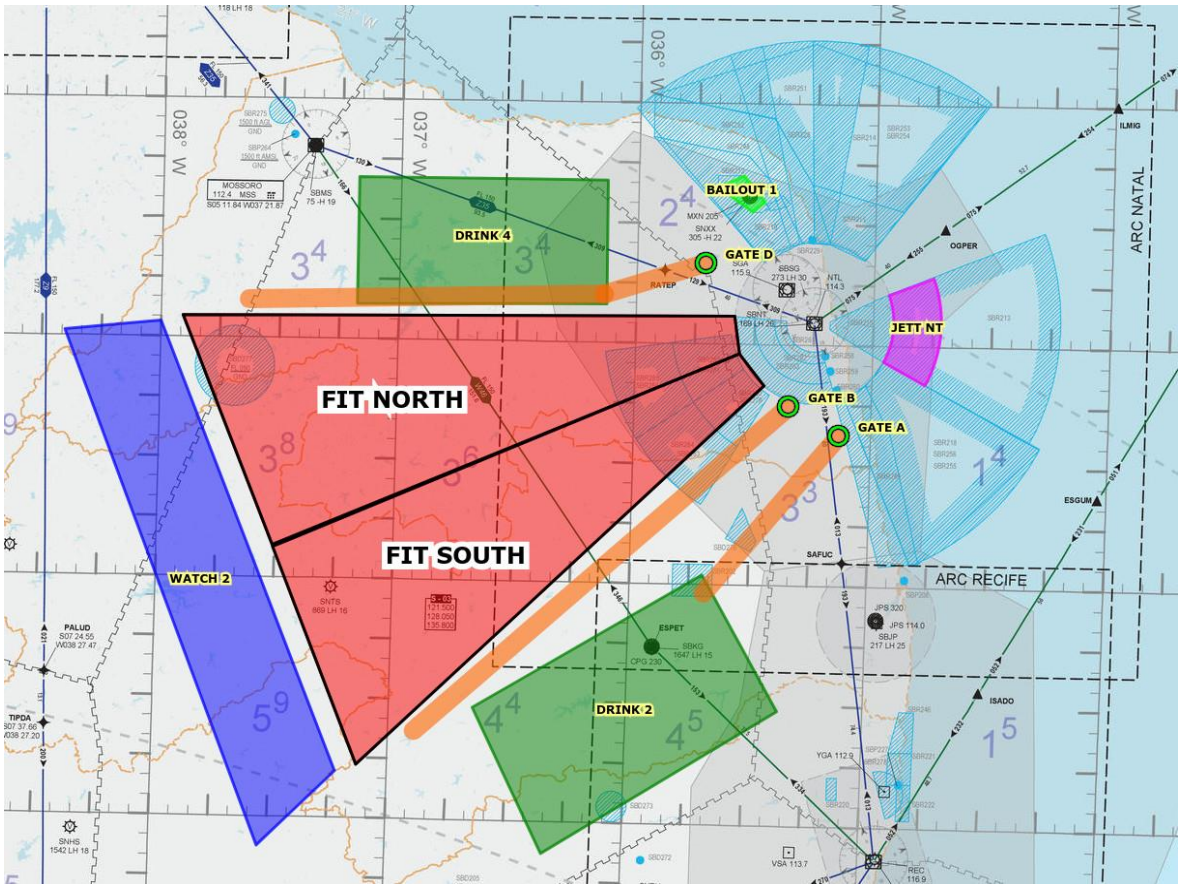

Figura 2 – FIT Areas

4.1.3 CENÁRIO FIT – TRANSPORTE AÉREO

A navigation circuit, called SAND, was created to support the training of transport aircraft. This navigation circuit will only be used by aircraft on air transport missions. The aircraft scheduled for this mission will carry out airdrop of supplies (CDS – Container Delivery System, Heavy Equipment for Brazilian Aircraft) or personnel airdrop. The airdrop zone Mossoró will support the airdrop of personnel and supplies, while the airdrop zone Assú will only be used for personnel airdrop.

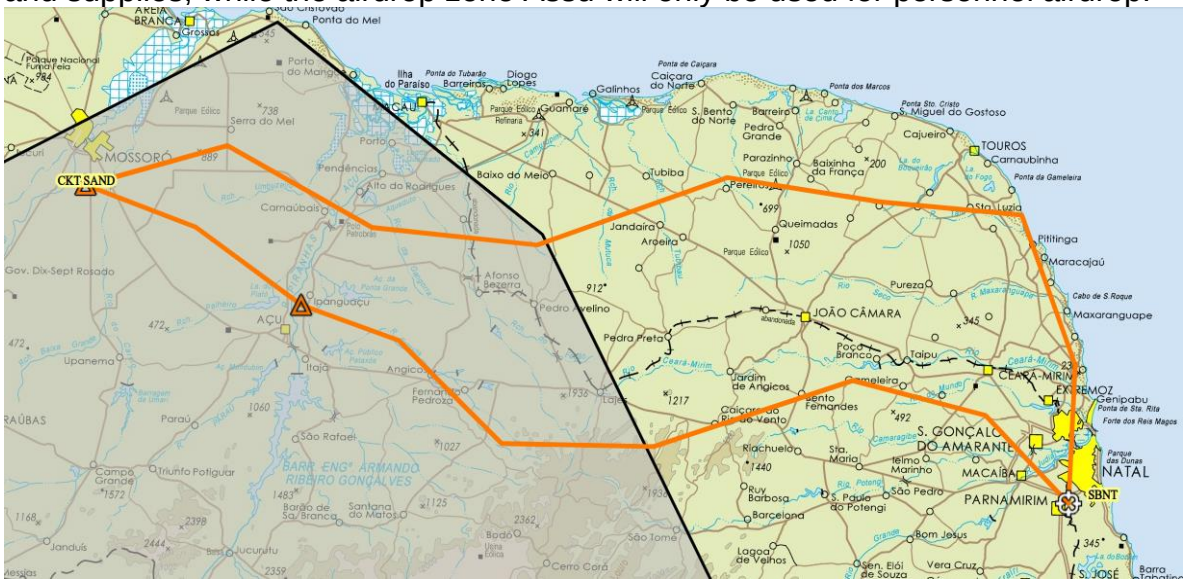

Figura 3 - Circuito SAND

4.1.3.1 Coordenadas Circuito SAND

TYPE	ID	LAT/LONG	RMK
IP	NTL	S 05°54.50' - W 035°14.95'	MIN ALT 1.000 FT AGL / MAX ALT 5.000 FT AGL
TURN	6PT1	S 05°43.95' - W 035°25.75'	
TURN	6PT2	S 05°39.97' - W 035°42.68'	
TURN	6PT3	S 05°48.42' - W 036°07.76'	
TURN	6PT4	S 05°48.35' - W 036°27.03'	
TURN	6PT5	S 05°35.95' - W 036°40.38'	
ASSÚ DZ	6PT6	S 05°31.82' - W 036°52.78'	
TURN	6PT5	S 05°22.47' - W 037°06.43'	
MOSSORÓ DZ	6PT6	S 05°17.50' - W 037°20.43'	
TURN	6PT7	S 05°12.44' - W 037°02.62'	
TURN	6PT8	S 05°22.21' - W 036°44.04'	
TURN	6PT9	S 05°24.04' - W 036°23.10'	
TURN	6PT10	S 05°15.47' - W 035°59.19'	
TURN	6PT11	S 05°18.16' - W 035°39.58'	
TURN	6PT12	S 05°19.46' - W 035°21.78'	
TURN	6PT13	S 05°37.62' - W 035°14.55'	
FP	NTL	S 05°54.50' - W 035°14.95'	
TOTAL DISTANCE		267,7 NM	
MAX SPEED		250 KT	

4.1.4 DRINK AREAS (FL110 – FL270)

4.1.4.1 Drink 1

S 08°36.23' W 037°45.72'
S 07°43.88' W 036°45.83'
S 08°13.80' W 036°20.22'
S 09°06.48' W 037°18.72

4.1.4.2 Drink 2

S 07°31.95' W 036°38.67'
S 08°08.12' W 036°20.15'
S 07°31.48' W 035°21.53'
S 06°57.77' W 035°41.55'

4.1.4.3 Drink 3

S 04°46.85' W 036°50.70'
S 05°13.03' W 035°53.32'
S 04°38.93' W 035°32.83'
S 04°13.00' W 036°31.50'

4.1.4.4 Drink 4

S 05°51.32' W 037°10.48'
S 05°50.47' W 036°07.43'
S 05°19.57' W 036°07.82'
S 05°19.55' W 037°10.58'

4.1.5 WATCH AREAS (FL200 – FL230)

4.1.5.1 Watch 1

S 06°24.35' W 039°47.40'
S 06°05.10' W 039°06.52'
S 08°13.42' W 037°59.23'
S 08°34.35' W 038°40.10'

4.1.5.2 Watch 2

S 05°58.77' W 038°24.23'
S 05°56.25' W 037°59.98'
S 07°48.50' W 037°13.05'
S 08°07.50' W 037°32.33'

4.1.6 JETTISSON AREAS (MSL – UNL)

S 05°42.32’ W 034°45.01’

32NM CLOCKWISE ARC WITH RADIUS IN S 05°54.30’ W 035°14.55’

S 06° 09.30’ W 034° 46.38’
S 06° 03.56’ W 034° 57.13’

20NM COUNTERCLOCKWISE ARC WITH RADIUS IN S 05°54.30’ W 035°14.55’

S 05° 47.02’ W 034° 56.19’

NOTE: S 05°54.30’ W 035°14.55’ ARE VOR/DME NTL. COORDINATES.

4.1.7 BAILOUT AREAS (FL050 – FL150)

S 05°21.02’ W 035°40.01’

S 05°18.04’ W 035°33.47’

S 05°24.49’ W 035°28.06’

S 05°27.04’ W 035°31.09’

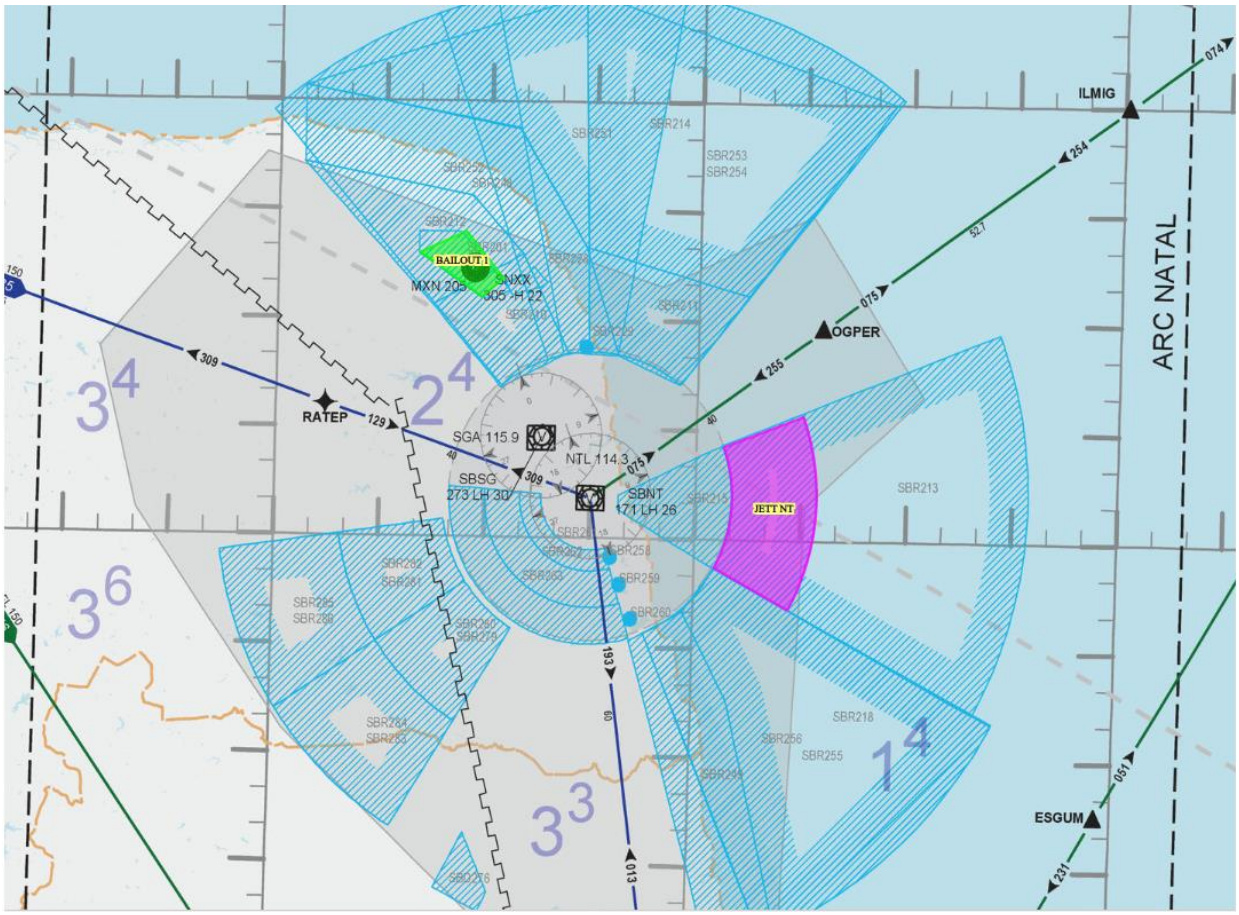

Figura 4 - Controlled Ejection Area (BAILOUT) and Fuel/Cargo Dump Area (JETTISSON)

4.1.8 CORRIDORS (GND – FL400)

All corridors are a junction line between the two geographic points 5NM wide.

4.1.8.1 Alpha 1 Corridor

S 06°22.60' W 035°07.98'

S 07°02.27' W 035°41.00'

4.1.8.2 Alpha 2 Corridor

S 07°02.24' W 035°44.88'

S 06°48.95' W 035°57.38'

4.1.8.3 Bravo 1 Corridor

S 06°15.42' W 035°20.78'

S 06°59.98' W 035°54.38'

4.1.8.4 Bravo 2 Corridor

S 06°59.32' W 035°53.62'

S 07°40.57' W 036°58.43'

4.1.8.5 Bravo 3 Corridor

S 06°15.42' W 035°20.78'

S 07°38.03' W 036°53.37'

4.1.8.6 Charlie Corridor

S 06°03.70' W 035°32.70'

S 06°11.18' W 035°57.07'

4.1.8.7 Delta Corridor

S 05°39.97' W 035°42.68'

S 05°48.08' W 036°08.15'

4.1.8.8 Delta 1 Corridor

S 05°48.08' W 036°08.15'

S 05°50.57' W 037°37.77'

4.1.8.9 Echo 1 Corridor

S 05°18.17' W 035°39.58'

S 05°15.18' W 036°01.20'

4.1.8.10 Echo 2 Corridor

S 05°15.40' W 035°58.82'
S 05°24.12' W 036°21.78'

4.1.8.11 Fox 1 Corridor

S 05°15.39' W 036°00.73'
S 04°53.34' W 036°59.11'

4.1.8.12 Fox 2 Corridor

S 04°52.90' W 036°56.60'
S 05°32.86' W 038°15.71'

4.2 FARM CIRCUITS

4.2.1 These are pre-planned circuits to familiarize the crew with the scenario and procedures of the CRUZEX Exercise 2024. These flights will take place in the first days of the exercise. To avoid any possibility of collision with obstacles on the ground, the minimum authorized height will be 1,000ft AGL and the maximum height will be 5,000ft AGL.

4.2.2 The Starting Point (IP) and Ending Point (FP) present in all tables of Navigation circuits are for reference only. All navigations must start and end at specific gates. Flying over IP and FP is not permitted.

4.2.3 Pilots must faithfully follow the navigation routes. Any type of deviation must be coordinated and authorized by the CRC; otherwise, there may be traffic conflict due to other aircraft flying in nearby scenarios.

4.3 BLACK CIRCUIT

4.3.1 Close to the BLACK CIRCUIT route, more precisely at coordinate S 05° 05.20' W 036° 18.98' and with a radius of 9 NM, there is an area with a high number of helicopter traffic (NO FLY ZONE). Therefore, crews must be pay attention when performing the BLACK CIRCUIT.

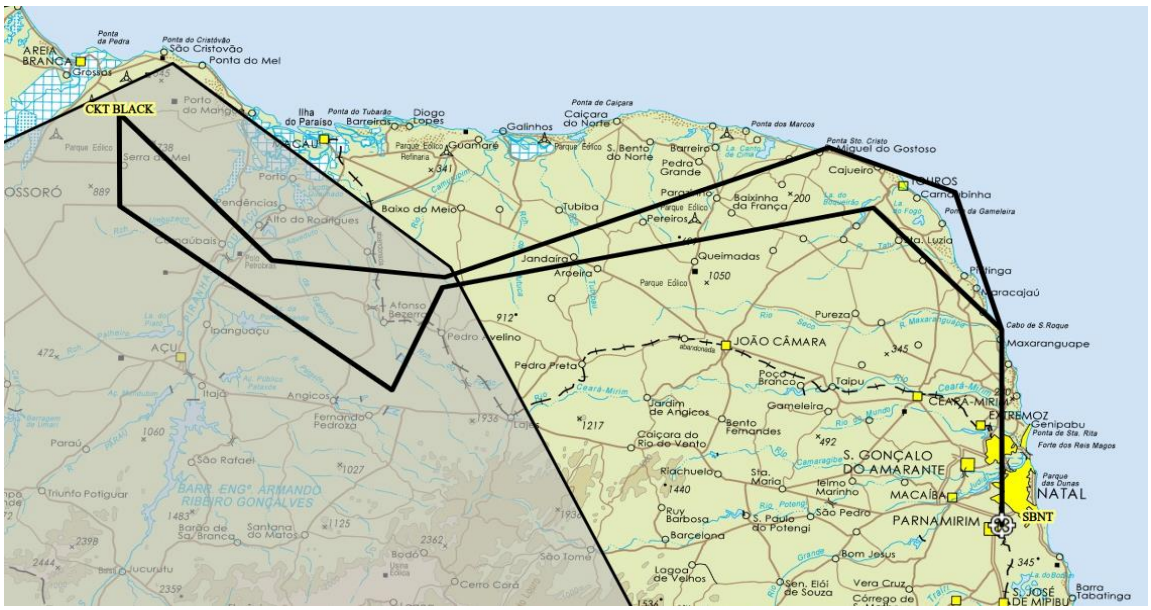

Figura 5 - BLACK Circuit

4.3.2 BLACK CIRCUIT COORDINATES

TYPE	ID	LAT/LONG	RMK
IP	NTL	S 05°54.50' - W 035°14.95'	MIN HGT 1,000 FT AGL / MAX HGT 5,000 FT AGL
TURN	1PT1	S 05°29.67' - W 035°15.62'	
TURN	1PT2	S 05°12.33' - W 035°21.67'	
TURN	1PT3	S 05°06.88' - W 035°37.05'	
TURN	1PT4	S 05°24.04' - W 036°23.10'	
TURN	1PT5	S 05°22.21' - W 036°44.04'	
TURN	1PT6	S 05°03.70' - W 037°02.92'	
TURN	1PT7	S 05°15.52' - W 037°02.62'	
TURN	1PT8	S 05°38.50' - W 036°29.13'	
TURN	1PT9	S 05°25.34' - W 036°23.39'	
TURN	1PT10	S 05°14.47' - W 035°31.48'	
TURN	1PT11	S 05°29.67' - W 035°15.62'	
FP	NTL	S 05°54.50' - W 035°14.95'	
TOTAL DISTANCE		321.7 NM	
MAX SPEED		420 KT	

4.4 GRAY CIRCUIT

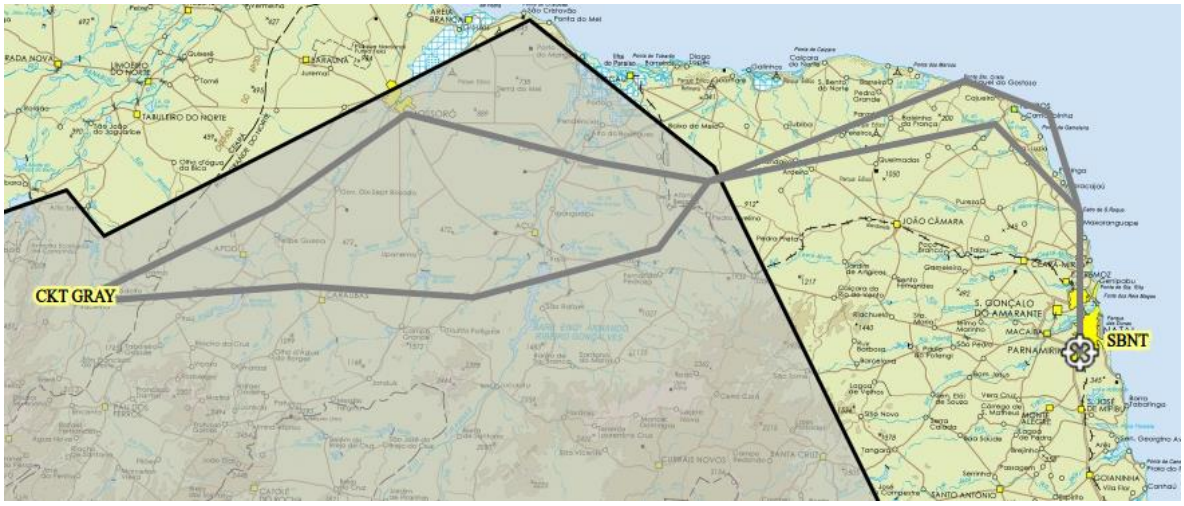

Figura 6 - GRAY Circuit

4.4.1 GRAY CIRCUIT COORDINATES

TYPE	ID	LAT/LONG	RMK
IP	NTL	S 05°54.50' - W 035°14.95'	MIN HGT 1,000 FT AGL / MAX HGT 5,000 FT AGL
TURN	1PT1	S 05°29.67' - W 035°15.62'	
TURN	1PT2	S 05°14.47' - W 035°31.41'	
TURN	1PT3	S 05°25.34' - W 036°23.39'	
TURN	1PT4	S 05°37.35' - W 036°32.22'	
TURN	1PT5	S 05°46.49' - W 037°05.75'	
TURN	1PT6	S 05°44.94' - W 037°37.23'	
TURN	1PT7	S 05°48.46' - W 038°18.30'	
TURN	1PT8	S 05°30.90' - W 037°42.33'	
TURN	1PT9	S 05°14.17' - W 037°18.68'	
TURN	1PT10	S 05°22.21' - W 036°44.04'	
TURN	1PT11	S 05°25.34' - W 036°23.39'	
TURN	1PT12	S 05°06.88' - W 035°37.05'	
TURN	1PT13	S 05°12.33' - W 035°21.67'	
TURN	1PT14	S 05°29.67' - W 035°15.62'	
FP	NTL	S 05°54.50' - W 035°14.95'	
TOTAL DISTANCE		455.5 NM	
MAX SPEED		420 KT	

4.5 BLUE CIRCUIT

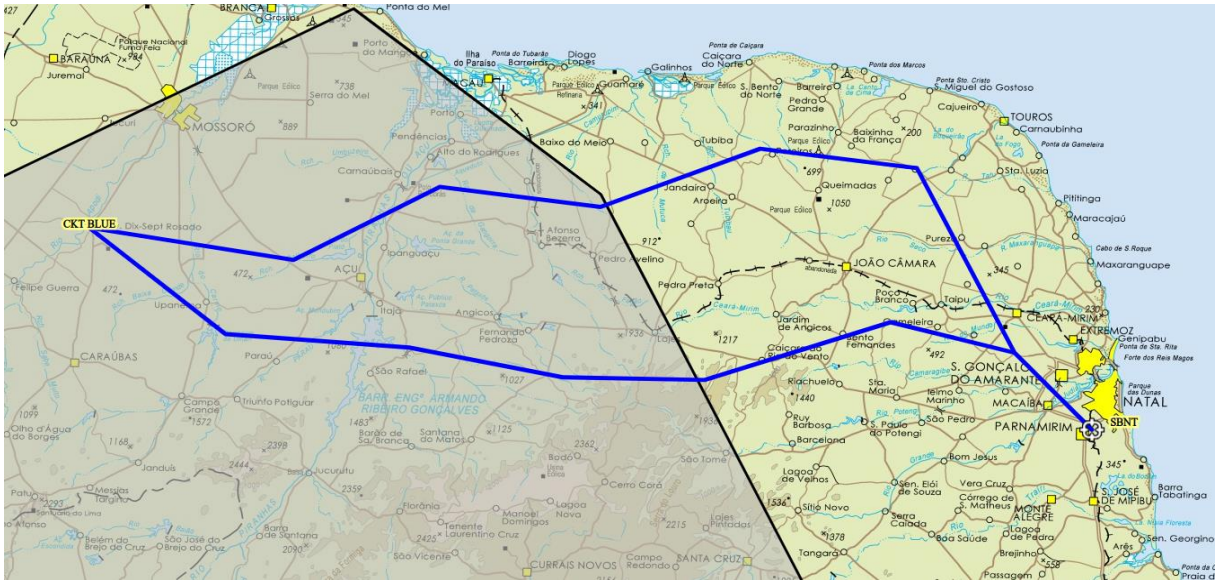

Figura 7 - BLUE Circuit

4.5.1 BLUE CIRCUIT COORDINATES

TYPE	ID	LAT/LONG	RMK
IP	NTL	S 05°54.50' - W 035°14.95'	MIN HGT 1,000 FT AGL / MAX HGT 5,000 FT AGL
TURN	2PT1	S 05°43.95' - W 035°25.75'	
TURN	2PT2	S 05°39.97' - W 035°42.68'	
TURN	2PT3	S 05°48.42' - W 036°07.76'	
TURN	2PT4	S 05°48.35' - W 036°27.03'	
TURN	2PT5	S 05°44.50' - W 036°48.00'	
TURN	2PT6	S 05°43.00' - W 037°13.00'	
TURN	2PT7	S 05°28.37' - W 037°31.85'	
TURN	2PT8	S 05°32.50' - W 037°04.00'	
TURN	2PT9	S 05°22.01' - W 036°44.36'	
TURN	2PT10	S 05°24.49' - W 036°22.48'	
TURN	2PT11	S 05°16.06' - W 036°00.98'	
TURN	2PT12	S 05°18.45' - W 035°39.66'	
TURN	2PT13	S 05°43.95' - W 035°25.75'	
FP	NTL	S 05°54.50' - W 035°14.95'	
TOTAL DISTANCE		308.6 NM	
MAX SPEED		420 KT	

4.6 GREEN CIRCUIT

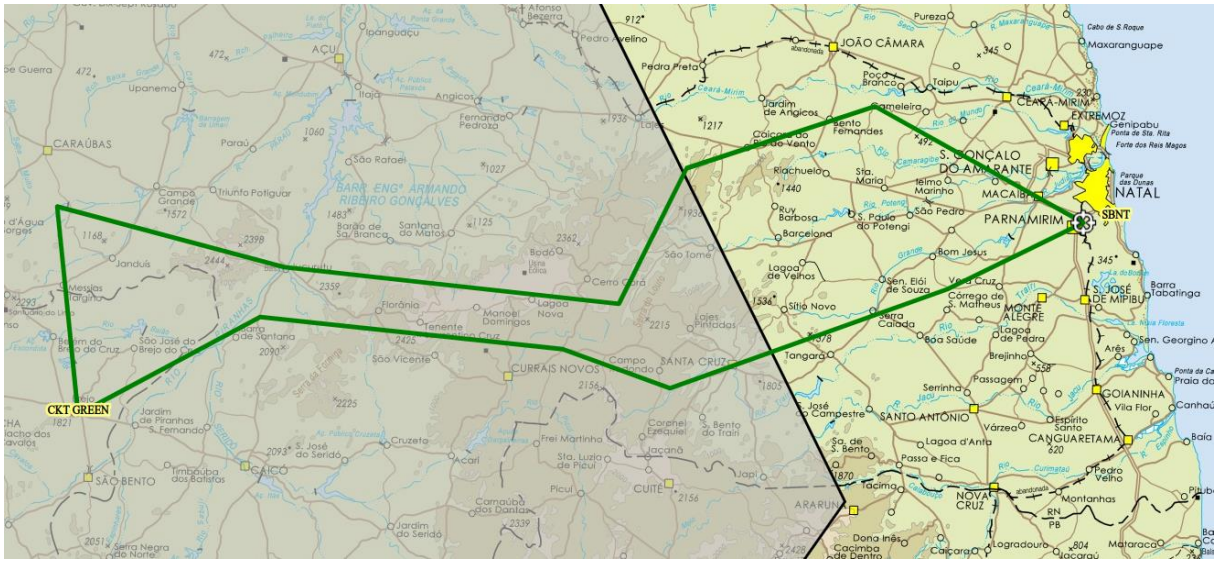

Figura 8 - GREEN Circuit

4.6.1 GREEN CIRCUIT COORDINATE

TYPE	ID	LAT/LONG	RMK
IP	NTL	S 05°54.50' - W 035°14.95'	MIN HGT 1,000 FT AGL / MAX HGT 5,000 FT AGL
TURN	3PT1	S 06°03.40' - W 035°32.88'	
TURN	3PT2	S 06°16.82' - W 036°09.53'	
TURN	3PT3	S 06°12.00' - W 036°24.00'	
TURN	3PT4	S 06°08.50' - W 037°04.50'	
TURN	3PT5	S 06°21.50' - W 037°28.50'	
TURN	3PT6	S 05°54.57' - W 037°31.94'	
TURN	3PT7	S 06°01.98' - W 037°01.43'	
TURN	3PT8	S 06°06.01' - W 036°16.66'	
TURN	3PT9	S 05°48.31' - W 036°08.07'	
TURN	3PT10	S 05°39.93' - W 035°43.13'	
FP	NTL	S 05°54.50' - W 035°14.95'	
TOTAL DISTANCE		286.2 NM	
MAX SPEED		420 KT	

4.7 RED CIRCUIT

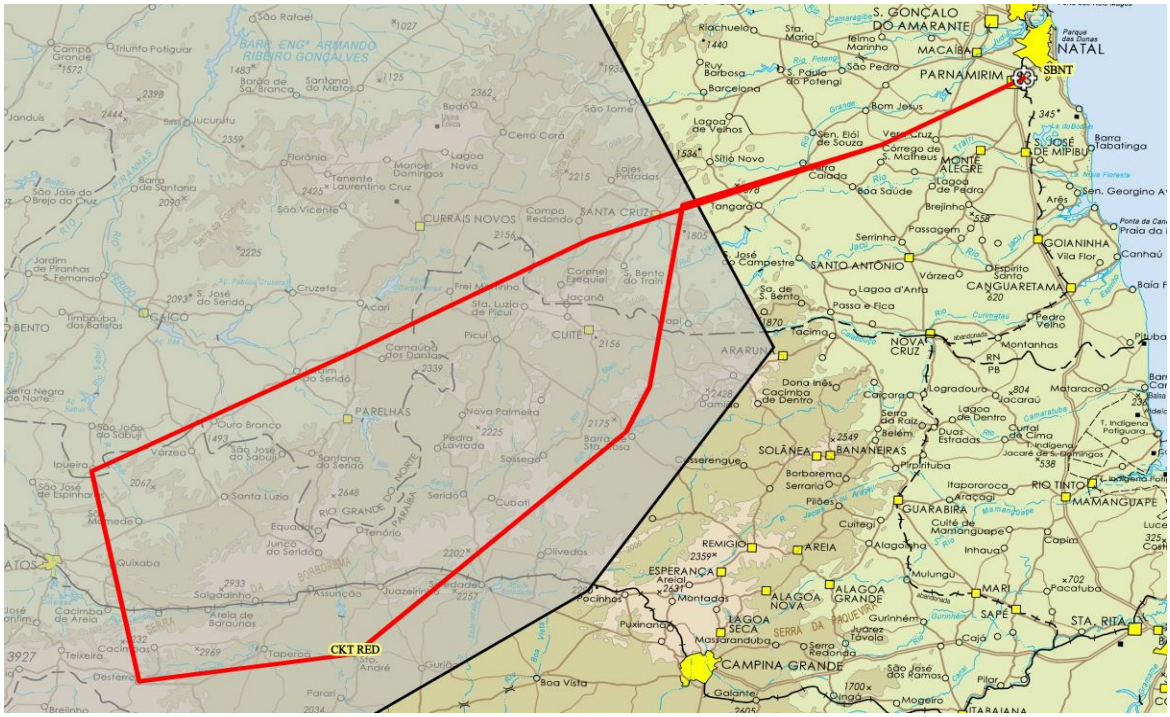

Figura 9 - RED Circuit

4.7.1 RED CIRCUIT COORDINATES

TYPE	ID	LAT/LONG	RMK
IP	NTL	S 05°54.50' - W 035°14.95'	MIN HGT 1,000 FT AGL / MAX HGT 5,000 FT AGL
TURN	4PT1	S 06°03.70' - W 035°32.70'	
TURN	4PT2	S 06°12.23' - W 035°57.87'	
TURN	4PT3	S 06°36.60' - W 036°01.39'	
TURN	4PT4	S 06°42.70' - W 036°04.21'	
TURN	4PT5	S 07°13.11' - W 036°37.84'	
TURN	4PT6	S 07°17.31' - W 037°05.22'	
TURN	4PT7	S 06°49.22' - W 037°12.08'	
TURN	4PT8	S 06°32.50' - W 036°39.00'	
TURN	4PT9	S 06°16.97' - W 036°09.51'	
TURN	4PT10	S 06°03.70' - W 035°32.70'	
FP	NTL	S 05°54.50' - W 035°14.95'	
TOTAL DISTANCE		308.3 NM	
MAX SPEED		420 KT	

5 FINAL ARRANGEMENTS

5.1 The flow of civil and military aircraft belonging to the General Air Traffic (CAG), in the areas covered by ExOp CRUZEX 2024, will be conditioned to the compliance with the procedures established in the relevant legislation, in addition to the restrictions established in the NOTAM relating to the Exercise.

5.2 For users of aerodromes within the CRUZEX 2024 operating area, the contact of the Flow Control Cell (FMC) located at ACC-RE will be made available through telephone (81) 2129-8101, to solve any doubts and advise on possible times when operations are not impacted by the operation.

5.3 DECEA provides a communication channel for you to send questions, suggestions, comments, criticisms, praise and error notifications through the Citizen Service Center (SAC DECEA) at the following address: http://servicos.decea.gov.br/sac/index.cfm.

5.4 This AIC comes into force on November 3, 2024.

5.5 Cases not provided for in this Circular shall be settled by the Head of DECEA`s Operations Subdepartment.