



IVAO Bolivia - ATC Procedures

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1.- GENERAL

The purpose of this section is to establish the official standardized procedures and criteria for the operation of aircraft and air traffic control within the FIR La Paz, its reading is recommended for all pilots operating in the same and mandatory for controllers.

It will be applied within the simulation framework of the IVAO network, and its purpose is to make Uruguay's virtual airspace as similar as possible to the real one.

To this end, the definitions, characteristics and procedures of the same will be outlined, this information being obtained from real official documentation such as AIP, RAB, ICAO documents.

It will serve as a reference guide for training and evaluations in Bolivia within the IVAO network and updated copies will be provided to the regional divisions for application in multi-divisional operations.

2 - AIRSPACE STRUCTURE

The airspace is divided into:

a) Lower airspace:

- Lower limit: Earth
- Upper limit: FL 245 (Inclusive)

b) Upper airspace:

- Lower limit: FL 250
- Upper limit: Unlimited

The airspace comprises:

- Flight Information Region,
- Control Areas,
- Terminal Control Areas and Control Zones.

3 - FLIGHT RULES

The operation of aircraft, both in flight and in the movement area of the airfields, shall conform to the general rules and, moreover, during the flight:

Visual Flight Rules (VFR)

Instrument Flight Rules (IFR)

Minimum VMC visibility and distance from clouds

Clase de espacio aéreo	C D	G	
		Por encima de 900 M (3000 FT) AMSL o por encima de 300 M (1 000 FT) sobre el terreno, de ambos valores el mayor.	Hasta 900 M (3000 FT) AMSL o 300 M (1 000 FT) por encima del terreno, de ambos el mayor.
Distancia de las nubes	1 500 M horizontalmente verticalmente 300 M (1 000 FT)	Libre de nubes y a la vista de la superficie	
Visibilidad de vuelo	8 KM por encima de 3 050 M (10 000 FT) AMSL inclusive 5 KM por debajo de 3 050 M (10 000 FT) AMSL	5 KM**	
<p>* Cuando la altura de la altitud de transición sea inferior a 3 050 M (10 000 FT) AMSL, deberá usarse el FL 100 en vez de 10 000 FT.</p> <p>** Cuando así lo prescriba la autoridad ATS correspondiente:</p> <p>a) Pueden permitirse visibilidades de vuelo inferiores a 1 500 M para los vuelos que se efectúen:</p> <ol style="list-style-type: none"> 1) a velocidad que en las condiciones de visibilidad predominante, den oportunidad suficiente para observar otro tránsito o cualquier otro obstáculo a tiempo para evitar una colisión; o 2) en circunstancias en que sería normalmente escasa la probabilidad de encuentros con otro tránsito, por ejemplo, en áreas de escaso volumen de tránsito, por trabajos aéreos a poca altura. <p>b) Los HELICOPTEROS pueden estar autorizados a volar con una visibilidad de vuelo inferior a 1 500 M, si maniobran a una velocidad que dé oportunidad suficiente para observar el tránsito o cualquier obstáculo a tiempo suficiente para evitar una colisión.</p>			

Restriction for VFR flights

Unless authorized by the competent ATS authority, no VFR flights will be conducted:

- Above FL 200.
- At transonic and supersonic speeds.

Note: The pilot in command shall not operate an aircraft below ten thousand (10,000 ft) feet above the ground, at a design speed of more than two hundred and fifty (250) knots, unless otherwise authorized or required by ATC.

Special VFR Flights

When transit conditions permit, special VFR flights may be authorized subject to the approval of the unit providing approach control service.

When visibility on the ground is not less than 1 500 m, special VFR flights may be authorised:

- Enter a control area to land, take off or depart from a control area
- Cross the control zone.
- Operate locally within a control zone

4 - ALTIMETRY

Altimeter settings

For flights in the vicinity of an airfield and within terminal control areas (TMAs), the position of the aircraft in the vertical plane must be expressed in

- Altitudes, when at or below the transition altitude, and
- Flight levels, when at or above the transition level

When passing through the transition layer the position of the aircraft in the vertical plane must be expressed in flight levels during ascent and in altitudes during descent.

Transition Level

A transition altitude of 5000 FT QNH is established for both EL TROMPILLO and VIRU VIRU airports.

The transitional altitude will be chosen according to the lower QNH value of both airports according to the table below:

TABLA PARA CALCULAR EL NIVEL DE TRANSICIÓN

QNH / AT	HASTA	977.2 a 995.0	995.1 a 1013.2	1013.3 a 1031.6	1031.7 a 1050.3	1050.4 a más
5000	75	70	65	60	55	50

Cruise levels

The cruise levels at which a flight or part of a flight is to be made will be called as

- Flight levels, for flights at or above the lowest usable flight level or, where appropriate, for flights above the transitional altitude;
- Altitudes, for flights performed below the lowest usable flight level or, where appropriate, for flights performed at or below the transitional altitude.

Cruise Level Tables

Table of applicable cruise levels in Bolivia

DERROTA*											
De 000° a 179°**						De 180° a 359°**					
Vuelos IFR			Vuelos VFR			Vuelos IFR			Vuelos VFR		
Altitud			Altitud			Altitud			Altitud		
FL	Metros	Pies	FL	Metros	Pies	FL	Metros	Pies	FL	Metros	Pies
-90				-	-	0				-	-
10	300	1 000		-	-	20	600	2 000		-	-
30	900	3 000	35	1 050	3 500	40	1 200	4 000	45	1 350	4 500
50	1 500	5 000	55	1 700	5 500	60	1 850	6 000	65	2 000	6 500
70	2 150	7 000	75	2 300	7 500	80	2 450	8 000	85	2 600	8 500
90	2 750	9 000	95	2 900	9 500	100	3 050	10 000	105	3 200	10 500
110	3 350	11 000	115	3 500	11 500	120	3 650	12 000	125	3 800	12 500
130	3 950	13 000	135	4 100	13 500	140	4 250	14 000	145	4 400	14 500
150	4 550	15 000	155	4 700	15 500	160	4 900	16 000	165	5 050	16 500
170	5 200	17 000	175	5 350	17 500	180	5 500	18 000	185	5 650	18 500
190	5 800	19 000	195	5 950	19 500	200	6 100	20 000	205	6 250	20 500
210	6 400	21 000	215	6 550	21 500	220	6 700	22 000	225	6 850	22 500
230	7 000	23 000	235	7 150	23 500	240	7 300	24 000	245	7 450	24 500
250	7 600	25 000	255	7 750	25 500	260	7 900	26 000	265	8 100	26 500
270	8 250	27 000	275	8 400	27 500	280	8 550	28 000	285	8 700	28 500
290	8 850	29 000	300	9 150	30 000	310	9 450	31 000	320	9 750	32 000
330	10 050	33 000	340	10 350	34 000	350	10 650	35 000	360	10 950	36 000
370	11 300	37 000	380	11 600	38 000	390	11 900	39 000	400	12 200	40 000
410	12 500	41 000	420	12 800	42 000	430	13 100	43 000	440	13 400	44 000
450	13 700	45 000	460	14 000	46 000	470	14 350	47 000	480	14 650	48 000
490	14 950	49 000	500	15 250	50 000	510	15 550	51 000	520	15 850	52 000
etc.	etc.	etc.	etc.	etc.	etc.	etc.	etc.	etc.	etc.	etc.	etc.

5 - AERIAL SPACES

ATS airspace shall be classified and designated as follows

CLASS A AIRSPACE

Class A airspace applies:

- a) In Terminal Areas (TMA): from FL 200 to FL 245
- b) On Lower Airspace routes: from FL 200 to FL 245
- c) On the Upper Airspace routes: from the FL 250 to Unlimited

CLASS C AIRSPACE

Class C airspace applies, in all Control Areas (CTR).

CLASS D AIRSPACE

Class D airspace is applied, in Terminal Areas (TMA), from the lower limit to the FL 200.

CLASS E AIRSPACE

Class E airspace applies, on lower airspace routes from the Minimum En Route Altitude (MEA), to FL 195.

CLASS G AIRSPACE

Class G airspace is applied, in all the FIR La Paz, except for the controlled air spaces (AWY, TMA, CTR).

Clase	Tipo de vuelo	Separación proporcionada	Servicio suministrados	Limitación de velocidad	Requisito de radio comunicación	Sometido autorización ATC
A	Solo IFR	Todas las aeronaves	Servicio de control de tránsito aéreo	No se aplica	Continúa en ambos sentidos	Si
C	IFR	IFR de IFR IFR de VFR	Servicio de control de tránsito aéreo	No se aplica	Continúa en ambos sentidos	Si
	VFR	VFR de IFR	1) Servicio de control de tránsito aéreo para la separación de IFR; 2) Información de tránsito VFR/VFR (y asesoramiento anticollisión a solicitud)	250 KT IAS por debajo de 3 050 M (10 000FT) AMSL	Continúa en ambos sentidos	Si
D	IFR	IFR de IFR	Servicio de control de tránsito aéreo, información de tránsito sobre vuelos VFR (y asesoramiento anticollisión, a solicitud)	250 KT IAS por debajo de 3050 M (10 000FT) AMSL	Continúa en ambos sentidos	Si
	VFR	Ninguna	Información de tránsito IFR/VFR y VFR/IFR (y asesoramiento anticollisión, a solicitud)	250 KT IAS por debajo de 3 050 M (10 000FT) AMSL	Continúa en ambos sentidos	Si
E	IFR	IFR de IFR	Servicio de control de tránsito aéreo en la medida de lo posible información de tránsito sobre vuelos VFR	250 KT IAS por debajo de 3050 M (10000FT) AMSL	Continúa en ambos sentidos	Si
	VFR	Ninguna	Información de tránsito en la medida de lo posible	250 KT IAS por debajo de 3050 M (10000FT) AMSL	No	No

Clase	Tipo de vuelo	Separación proporcionada	Servicios suministrados	Limitación de velocidad	Requisito de radio comunicación	Sometido autorización ATC
G	IFR	Ninguna	Servicio de información de vuelo	250 KT IAS por debajo de 3 050 M (10 000FT) AMSL	Continúa en ambos sentidos	No
	VFR	VFR de IFR	Servicio de información de vuelo	250 KT IAS por debajo de 3 050 M (10 000FT) AMSL	No	No
* Cuando la altura de la altitud de transición sea inferior a 3 050M (1 000 FT) AMSL, debería utilizarse el FL 100 en vez de 1 000 FT						

6 - AIR TRAFFIC SERVICES AND FACILITIES

Air traffic services are one of the essential services for the management, safety and efficiency of flights, and must meet the following objectives:

- Prevent collisions between aircraft;
- Prevent collisions between aircraft in the maneuvering area and between these and the obstacles in this area;
- Accelerate and maintain orderly air traffic movement;
- To advise and provide useful information for the safe and efficient operation of flights

Air Traffic Services

Air traffic services shall comprise three services under the following designations:

- Area Control Service (ACC): The provision of air traffic control service for controlled flights usually within an FIR.
Example: SLLF_CTR
- Approach Control Service (APP): The provision of air traffic control service for those portions of controlled flights related to arrival or departure usually within a TMA or CTR.
Example: SLVR_APP
- Aerodrome Control Service (TWR): The provision of air traffic control service for aerodrome traffic usually within an ATZ.
Example: SLCB_TWR

Designation of parts of controlled airspace and aerodromes

- Flight Information Regions (FIR). Those parts of the airspace in which it is decided to provide flight information service and alert service with vertical and horizontal boundaries shall be designated as flight information regions.
Example: FIR La Paz.
- Control areas (TMA) and control zones (CTR). Those parts of the airspace in which it is decided to provide air traffic control service to all IFR and VFR flights with vertical and horizontal boundaries shall be designated as control areas or control zones.
Example: TMA Santa Cruz or CTR Viru Viru.
- Controlled airfields. Those aerodromes where it is determined that air traffic control service must be provided with vertical and horizontal limits will be designated as controlled aerodromes.

7 - DANGEROUS, PROHIBITED AND RESTRICTED AREAS

Any airspace in which there may be a potential danger to the operation of aircraft and/or the operation of civil aircraft may be temporarily or permanently restricted is classified as

- DANGEROUS ZONE (D) Airspace of defined dimensions in which activities dangerous to the flight of aircraft may be conducted at specified times.
- PROHIBITED ZONE (P) Airspace of defined dimensions over the territory or waters under the jurisdiction of a State, within which the flight of aircraft is prohibited. It can only be decreed by the aeronautical authority for reasons of national security or of a military nature.
- RESTRICTED AREA (R) Airspace of defined dimensions over the territory or waters under the jurisdiction of a State, within which the flight of aircraft is restricted in accordance with certain specified conditions.

The identifying letters are: "D" for Dangerous, "P" for Prohibited and "R" for Restricted preceded by the nationality indicator: SU and a correlative number.

Examples: SLP20, SLR19.

8 - TRANSFERS

Responsibility for the control of an aircraft shall be transferred from one air traffic control unit to another as follows:

Between two units providing area or approach control service

- Responsibility for control of an aircraft shall be transferred from the unit providing area control service to the unit providing area control service in an adjacent control area at the time the air traffic control center or approach control center exercising control of the aircraft estimates that the aircraft will cross the common boundary of both control areas.

Between the unit providing the air or approach control service and an airfield control tower.

- With incoming traffic: You are in the vicinity of the airfield, and it is considered that you will be able to make the approach and landing by visual reference to the terrain, have VMC conditions, have reached an agreed point or level, or have landed.
- With departing traffic: Before the aircraft leaves the vicinity of the VMC airfield, before the aircraft moves on to operate in BMI or at an agreed point or level. When aerodrome conditions prevail, BMI will be transferred immediately after the aircraft is in flight.

Coordination of the transfer.

Responsibility for the control of an aircraft shall not be transferred from one air traffic control unit to another without the consent of the accepting control unit.

- The transferring control unit shall communicate to the accepting control unit the appropriate parts of the updated flight plan and any control information relevant to the requested transfer.
- The accepting control unit shall: indicate that it is in a position to accept control of the aircraft

International Letters of Agreement

As the delimitation of airspace is made by reference to national boundaries, suitably located transfer points shall be designated, so that

sign operational agreement letters between the Bolivia Division and the adjacent Divisions.

9 - AIR TRAFFIC CONTROL AUTHORIZATIONS

Air traffic control permits shall be for the sole purpose of meeting the requirements of providing air traffic control service.

The air traffic control permit shall contain

- Identification of the aircraft in the flight plan;
- Limit of the authorization;
- Flight route;
- The flight level(s) for all or part of the route
- Necessary instructions or information on other aspects, such as approach or departure maneuvers

The controller will listen to the meal to ensure that the flight crew has correctly acknowledged receipt of the authorization or instruction and will take immediate action to correct any discrepancies revealed by the meal.

10 - TRANSPONDER

Transponder codes will be assigned to all VFR-IFR aircraft within the La Paz FIR according to the following criteria for SSR code assignment

The ACC La Paz assigns the following codes:

a) International flights 3100 - 77

b) National flights 1700 - 77 IFR

1100 - 77 VFR

Note: The following codes are permanently monitored:

7500 Communication failure

7600 Unlawful interferences (its use is strictly forbidden on the IVAO network)

7700 Emergency