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CABY

08-2018

**CIVIL
AVIATION
BYE-LAW**

REQUIREMENTS FOR THE PROVISION OF AIR NAVIGATION SERVICES

Document No.: **CABY 08/2018**
10 April 2018

PREAMBLE: These Bye-Laws are made by the Civil Aviation Authority of Botswana with the approval of the Minister of Transport and Communications under Section 8 (2) of the Civil Aviation Act, 2011.

CITATION: These Bye Laws may be cited as the Civil Aviation Authority of Botswana (Renewal Requirements for Student Pilot License, Private Pilot License, Commercial Pilot License, and Airline Transport Pilot License) Bye Laws.

1. PURPOSE

The purpose of this Civil Aviation Bye-Law (CABY) is to clarify the requirements necessary for the provision of Air Navigation Services.

2. APPLICABILITY

This CABY shall apply to all the Air Navigation Service Providers in the provision of Air traffic Services (ATS), Procedures for Air Navigation Services - Aircraft Operations (PANS-OPS), Aeronautical Information Services (AIS), Cartographic Services, Communications, Navigation Surveillance (CNS), Search and Rescue (SAR) and Meteorological Service for International Air Navigation (MET) in Botswana.

3. EFFECTIVITY

This Civil Aviation Bye-Law (08-2018) shall be deemed to have become effective on 10th April 2018.

4. REFERENCES

- ICAO Annex 2 – *Rules of the Air*
- ICAO Annex 3 - *Meteorological Service for International Air Navigation*
- ICAO Annex 4 – *Aeronautical Charts*
- ICAO Annex 5 – *Units of Measurements to be used in Air and Ground Operations*
- ICAO Annex 10 – *Aeronautical Telecommunications*
- ICAO Annex 11 - *Air Traffic Services*
- ICAO Annex 12 – *Search and Rescue*
- ICAO Annex 15 – *Aeronautical Information Services*
- ICAO Doc 8168 – *Procedures for Air Navigation Services – Aircraft Operations*

5. REQUIREMENTS

5.1 Air traffic Services (ATS)

5.1.1 The Air Navigation Service Providers (ANSPs) responsible for the provision of Air Traffic Service (ATS) shall develop job descriptions for its ATS staff.

5.1.2 The ANSPs responsible for the provision of air traffic service (ATS) shall develop and implement a training programme for its ATS staff.

- 5.1.3 The ANSPs responsible for the provision of air traffic service (ATS) shall develop and maintain training records for its ATS staff.
- 5.1.4 The ANSPs shall ensure that procedures to ensure the continued competency of air traffic controllers on new equipment, procedures and updated communications are developed.
- 5.1.5 The ANSPs shall establish Runway Safety Programme.
- 5.1.6 The ANSPs shall establish a mechanism/system with time frame for the elimination of deficiencies identified by ATS inspectors.
- 5.1.7 The ANSPs shall develop policies and procedures for determining the capacity of the ATS system including the number of staff required to ensure the provision of an adequate ATS system.
- 5.1.8 The ANSPs shall ensure that policies and procedures to enable recruitment and retention of appropriately qualified and experienced ATS staff are developed and implemented.
- 5.1.9 The ANSPs shall develop and implement training programme, including: initial, recurrent, specialised and refresher training for its ATS staff.
- 5.1.10 The ANSPs shall ensure that a system has been established and implemented for the recording and retention of ATS data.
- 5.1.11 The ANSPs shall ensure that separation minima are applied in accordance with Procedures for Air Navigation Services - Air Traffic Management (PANS-ATM) and Regional Supplementary Procedures (SUPPS).
- 5.1.12 The ANSPs shall ensure that a process has been established and implemented to verify that:
- (a) aircraft are approved for operation in Reduced Vertical Separation Minimum (RVSM) airspace; and
 - (b) air navigation information is exchanged with the Regional Monitoring Agency (RMA) on a regular basis.
- 5.1.13 The ANSPs shall ensure that monitoring mechanisms for RVSM are established and implemented for the collection of large height deviations and coordination failures and subsequent reporting to the RMA.
- 5.1.14 The ANSPs shall ensure that requirements for read-back of safety-related parts and other relevant information of Air Traffic Control (ATC) clearances and instructions are met.
- 5.1.15 The ANSPs shall establish and implement procedures to assist and to safeguard strayed or unidentified aircraft.

- 5.1.16 The ANSPs shall ensure compliance with communications requirements of International Civil Aviation Organisation (ICAO) Annex 11.
- 5.1.17 The ANSPs shall ensure that MET information is supplied promptly to flight information centres, area control centres, approach control units, aerodrome control towers, and communication stations.
- 5.1.18 The ANSPs shall ensure that information on aerodrome conditions and the operational status of associated facilities is provided to the aerodrome control tower and unit providing approach control services.
- 5.1.19 The ANSPs shall ensure that information on the operational status of navigational aids is promptly forwarded to appropriate ATS units.
- 5.1.20 The ANSPs shall ensure that contingency plans have been developed and implemented in the event of disruption or potential disruption of Air Traffic Service (ATS) or related supporting services.
- 5.1.21 The ANSPs shall promulgate requirements for air-ground radio communications failure.
- 5.1.22 The ANSPs shall ensure that procedures are established and implemented for air-ground radio communications failure.
- 5.1.23 The ANSPs shall ensure that Air Traffic Control (ATC) contingency procedures are established and implemented for:
- (a) Radio communications contingencies; and
 - (b) Emergency separation and, if applicable, for:
 - (i) Short-term conflict alert (STCA);
 - (ii) Minimum safe altitude warning (MSAW); and
 - (iii) Aircraft equipped with ACAS.
- 5.1.24 The ANSPs shall establish an acceptable level of safety performance to be achieved in the provision of Air Traffic Services (ATS).
- 5.1.25 The ANSPs shall carry out safety assessments, with respect to significant airspace reorganizations:
- (a) for significant changes in the provision of ATS procedures applicable to an airspace or an aerodrome; and
 - (b) for the introduction of new equipment, systems or facilities.
- 5.1.26 The ANSPs shall conduct safety reviews on regular basis.
- 5.1.27 The ANSPs shall ensure that safety reviews are conducted by appropriately qualified personnel.

- 5.1.28 The ATS provider shall implement performance-based navigation (PBN) as per the prescribed navigation specifications appropriate to the level of communications, navigation and Air Traffic Services.
- 5.1.29 The ATS provider shall ensure that procedures are established and implemented to control the movement of persons and vehicles on the manoeuvring area of the aerodrome.
- 5.1.30 The ATS provider shall ensure that policies and procedures are established and implemented for coordination between Air Traffic Service (ATS) and other entities.
- 5.1.31 The ATS provider shall provide data link services and ensure that relevant procedures are established and implemented.
- 5.1.32 The ATS provider shall establish and implement a system for reporting and following up air traffic incidents.
- 5.1.33 The ATS provider shall establish and implement runway safety programme.
- 5.1.34 The ATS provider shall ensure that procedures have been established and implemented to provide service to aircraft in the event of emergency.
- 5.1.35 The ANSPs shall establish and implement an acceptable Safety Management System (SMS).
- 5.1.36 The ANSPs shall establish and implement procedures to provide service to aircraft in the event of emergency.

5.2 Search and Rescue (SAR)

- 5.2.1 The ANSPs shall ensure that each Rescue Coordination Centre (RCC) and Rescue Sub-Centre (RSC) develop written job descriptions for each of their technical staff.
- 5.2.2 The ANSPs shall ensure that each RCC and RSC establish a training programme for their staff.
- 5.2.3 The ANSPs shall ensure that each RCC and RSC maintain training records for their technical staff.
- 5.2.4 The ANSPs shall ensure that each RCC and RSC employ sufficient workforce skilled in coordination and operational functions.
- 5.2.5 The ANSPs shall ensure that RCC personnel involved in the conduct of radiotelephony communications are proficient in the use of the English language.

- 5.2.6 The ANSPs shall ensure that the RCC has prepared detailed plans of operation for the conduct of Search and Rescue (SAR) operations within its Search and Rescue Region (SRR).
- 5.2.7 The ANSPs shall ensure that SAR personnel are regularly trained and that appropriate SAR exercises are arranged.
- 5.2.8 The ANSPs shall develop a periodic training plan detailing and prioritizing the type of training that shall be provided during the established period.
- 5.2.9 The ANSPs shall designate a SAR point of contact for the receipt of COSPAS-SARSAT distress data.
- 5.2.10 The ANSPs shall establish a RCC or an RSC in its SRR.
- 5.2.11 The ANSPs shall authorize its RCCs to provide, when requested, assistance to other rescue coordination centres (RCCs), including assistance in the form of aircraft, vessels, persons or equipment.
- 5.2.12 The ANSPs shall arrange for all aircraft, local services and facilities which do not form part of the SAR organization to cooperate fully with the latter in SAR and to extend any possible assistance to the survivors of aircraft accidents.
- 5.2.13 The ANSPs shall employ sufficient workforce skilled in coordination and operational functions for each RCC and RSC.
- 5.2.14 The ANSPs shall staff the RCC and RSC with trained and qualified personnel who are proficient in the use of the English language twenty-four (24) hours a day.
- 5.2.15 The ANSPs shall make arrangements for the use of SAR units and other available facilities to assist any aircraft or its occupants who are or who appear to be in a state of emergency.

5.3 Procedures for Air Navigation Services - Aircraft Operations (PANS-OPS)

- 5.3.1 The ANSPs responsible for the provision of PANS-OPS shall develop job description for its PANS-OPS technical staff.
- 5.3.2 The ANSPs responsible for the provision of PANS-OPS shall develop a training programme for PANS-OPS technical staff.
- 5.3.4 The ANSPs responsible for the provision of PANS-OPS shall develop and maintain training records for PANS-OPS technical staff.
- 5.3.5 The ANSPs shall review the published procedure designs periodically to ensure that they continue to comply with changing criteria and meet user requirements.

- 5.3.6 The ANSPs shall carry out flight inspections of instrument flight procedures, including obstacle checks.
- 5.3.7 When an aerodrome operating minima has been established, the ANSP shall develop flight procedures, to establish and publish operating minima (e.g. visibility, minimum descent altitude/height (MDA/H), decision altitude/height (DA/H)) for instrument approaches at aerodromes.
- 5.3.8 The ANSPs shall develop PANS-OPS procedures in accordance with the criteria promulgated by the Republic of Botswana.
- 5.3.9 The PANS-OPS service provider shall retain all procedure design documentation, so as to allow any data anomalies or errors found during the production, maintenance or operational use of the procedure to be corrected.
- 5.3.10 Instrument flight procedure design service provider shall establish minimum qualifications, experience, training, skills and competency level standards for instrument flight procedure designers.
- 5.3.11 The Instrument flight procedure design service provider shall establish minimum qualifications, experience, training, skills and competency level standards for instrument flight procedure designers.

5.4 Aeronautical Information Services (AIS)

- 5.4.1 The ANSPs responsible for the provision of AIS shall develop job descriptions for its technical staff.
- 5.4.2 The ANSPs responsible for the provision of AIS shall develop a training programme for its technical staff.
- 5.4.3 The ANSPs responsible for the provision of AIS shall maintain training records for its technical staff.
- 5.4.4 The ANSPs shall establish a properly organized quality management system in the AIS.
- 5.4.5 The ANSPs shall use Aeronautical Information Regulation and Control (AIRAC) system to notify the establishment, withdrawal and premeditated significant changes of circumstances listed in accordance with Chapter 6 and Appendix 4 Part 2 of ICAO Annex 15.
- 5.4.6 The ANSPs shall establish a mechanism to ensure that aeronautical data quality requirements related to publication resolution and data integrity are in accordance with the provisions of ICAO Annex 15.

5.5 Cartographic Services

- 5.5.1 The ANSPs responsible for the provision of cartographic services shall develop job descriptions for its cartographic technical staff.
- 5.5.2 The ANSPs responsible for the provision of cartographic services shall develop a formal training programme for cartographic technical staff.
- 5.5.3 The ANSPs responsible for the provision of cartographic services shall maintain training records for cartographic technical staff.
- 5.5.4 The ANSPs shall establish a mechanism to ensure that aeronautical data quality requirements related to the data integrity and charting resolution are in accordance with the provisions of ICAO Annex 4.
- 5.5.5 The ANSPs shall ensure that aeronautical charts are readily available to users.
- 5.5.6 The ANSPs shall take reasonable measures to ensure that the information that it provides and the aeronautical charts made available are comprehensive and accurate and that they are maintained up to date by a revision service.
- 5.5.7 The ANSPs shall avail to users all the charts which are applicable in the Gaborone Flight Information Region (FIR). (STD & RP (Recommended Practice contained in an Annex to the Chicago Convention).

5.6 Communications, Navigation and Surveillance (CNS)

- 5.6.1 The ANSPs responsible for operating CNS systems and facilities shall develop job descriptions for its technical staff.
- 5.6.2 The ANSPs responsible for operating CNS systems and facilities shall develop a training programme for its technical staff.
- 5.6.3 The ANSPs responsible for operating CNS systems and facilities shall maintain training records for its technical staff.
- 5.6.7 The ANSPs shall conduct flight inspections on navigational aids as follows:

NAVAIDS Facility	Periodicity
DVOR	1 year
CVOR	1 year
ILS	6 Months
Landing DME	6 Months
Enroute DME	1 year
NDB	1 year where operationally required

5.7 Aeronautical Meteorological Services

- 5.7.1 The MET service provider shall develop job descriptions for its technical staff.
- 5.7.2 The MET service provider shall establish a training programme for its technical staff.
- 5.7.3 The MET service provider shall maintain training records for its technical staff.
- 5.7.4 The MET service provider shall appropriately site wind sensors for local routine reports to give the best practicable indication of conditions along the runway/touchdown zone.
- 5.7.5 The MET offices shall be readily accessible, so that briefing, consultation and flight documentation can be provided to flight crew members and/or other flight operations personnel.

Approved on this 22nd Day of MAY 2018



Onkokame K. Mokaila
Minister
Ministry of Transport and Communications

Made on this 22nd Day of MAY 2018



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