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AIP SUPPLEMENT

SUP 02/14

11th Dec 2014

ENR

S 02/14: Establishment of ATC Radar Surveillance within Kigali TMA.

1 Approach radar services will be established within Kigali TMA effective **11th Dec 2014** daily on a 24 Hour basis. Details of the established ATC radar unit are as here below:

a) Call sign : Kigali Radar

b) Frequency : Primary 125.3 MHz

: Secondary 124.3 MHz

c) lateral limits : Along the entire Rwanda Political boundary

d) Vertical limits : Upper limit - FL245

Lower limit - 8000ft

2. The application of radar control service

1.2.1 Radar identification will be achieved according to the provisions specified by ICAO.

1.2.2 Radar control service will be provided in controlled airspaces to aircraft operating within Kigali TMA. The services to be provided include:

a) Radar separation of arriving, departing and en-route traffic;
b) Radar monitoring of arriving, departing and en-route traffic to provide information on any significant deviation from the normal flight path;
c) Radar vectoring when required;
d) Assistance to aircraft in emergency;
e) Assistance to aircraft crossing controlled airspace

1.2.3 The minimum horizontal radar separations to be provided are:

a) 10 NM when SSR only;

b) 10 NM when using primary radar only.

1.2.4 Terrain Clearance

1.2.4.1 ATC Radar Controllers will ensure that levels assigned to IFR flights when in receipt of a Radar Control Service will provide the minimum terrain clearances applicable for each sector.

1.2.4.2 Radar Controllers have no responsibility for the terrain clearance of, and will not assign levels to Aircraft operating Special VFR or VFR within controlled airspace which accept radar vectors.

1.2.5 ATC Surveillance Minimum Altitude Charts (ATCSMAC)

1.2.5 .1 The purpose of the ATCSMAC is to provide information that will enable flight crews to Monitor and cross check altitudes assigned whilst receiving vectoring instructions from Air traffic controllers. ATCSMAC for Kigali Airport is provided as an appendix to this supplement.

2. SSR Operating Procedures

2.1 Pilots of aircraft about to enter Kigali TMA from an adjacent region where the operation of transponders has not been required and have not received specific instructions from Kigali Radar concerning the setting of the transponder shall operate the SSR transponder on mode A2000 when flying under instrument flight rules (IFR) and mode A2201 when flying under visual flight rules (VFR) until assigned a specific code by the radar controller.

2.2 With effect from **11th Dec 2014,** all aircraft intending to fly within Kigali TMA should have and operate their SSR transponders with altitude reporting facility, Mode C.

2.3 System of SSR code assignment

2.3.1 SSR code assignment in Kigali TMA is undertaken by use of the Enhanced originating region Code assignment method (e-ORCAM)/Centralised SSR Code Assignment and management System (CCAMS)

2.3.2 Special Purpose Mode A Codes

The following codes are reserved internationally for special purposes and should be selected as follows:

i) Code 7700: To indicate an emergency
ii) Code 7600: To indicate a Radio Failure
iii) Code 7500: To indicate unlawful interference with the planned operation of a flight
iv) Codes(7601-7612): Humanitarian aircraft

3. Mode S Aircraft Identification

To comply with ICAO airborne equipment requirements, all Mode S transponder equipped aircraft Engaged in international civil aviation must incorporate an Aircraft Identification Feature (Flight Identity or Flight ID) and ensure correct setting of Aircraft Identification.

Incorrect Aircraft Identification settings compromise the safety and the benefits associated with Mode S and will prohibit Automatic flight plan correlation, which could affect subsequent ATC clearances and sequencing.

3.1 Emergency Procedures;

If the pilot of an aircraft encountering a state of emergency has previously been directed by ATC to operate the transponder on a specific code, this code setting shall be maintained until otherwise advised. In all other circumstances, the transponder shall be set to Mode A/3, Code 77 (or 7700).

2.4 Radar failure procedures

a) In the event of complete failure of the ATS surveillance system where air-ground communications remain, the controller will establish procedural separation between the aircraft and limit the number of aircraft permitted to enter the area.

b) As an emergency measure, use of flight levels spaced by 500ft may be resorted to temporarily if standard procedural separation cannot be provided immediately.

2.4 Radio communication failure (Air-ground communication failure)

a) When a controlled aircraft experiencing complete communication failure is operating or expected to operate in an area and at flight levels where an ATS surveillance service is applied, separation used for ATS surveillance will continue to be used.
b) However, if the aircraft experiencing the communication failure is not identified, separation shall be applied between identified aircraft and all unidentified aircraft observed along the expected route of the aircraft with the communication failure, until such time as it is known, or can safely be assumed, that the aircraft with radio communication failure has passed through the airspace concerned, has landed, or has proceeded elsewhere.

2.5 Transponder Failure

2.5.1 Failure before intended departure

When an aircraft experiencing transponder failure after departure and is operating or expected to operate in an area where the carriage of a functioning transponder with specified capabilities is mandatory, the ATC units concerned should endeavour to provide for continuation of the flight to the aerodrome of first intended landing in accordance with the flight plan. However, in certain traffic situations, either in terminal areas or en-route, continuation of the flight may not be possible, particularly when failure is detected shortly after take-off, the aircraft may then be required to return to the departure aerodrome or to land at the nearest suitable aerodrome acceptable to the operator concerned and to ATC.

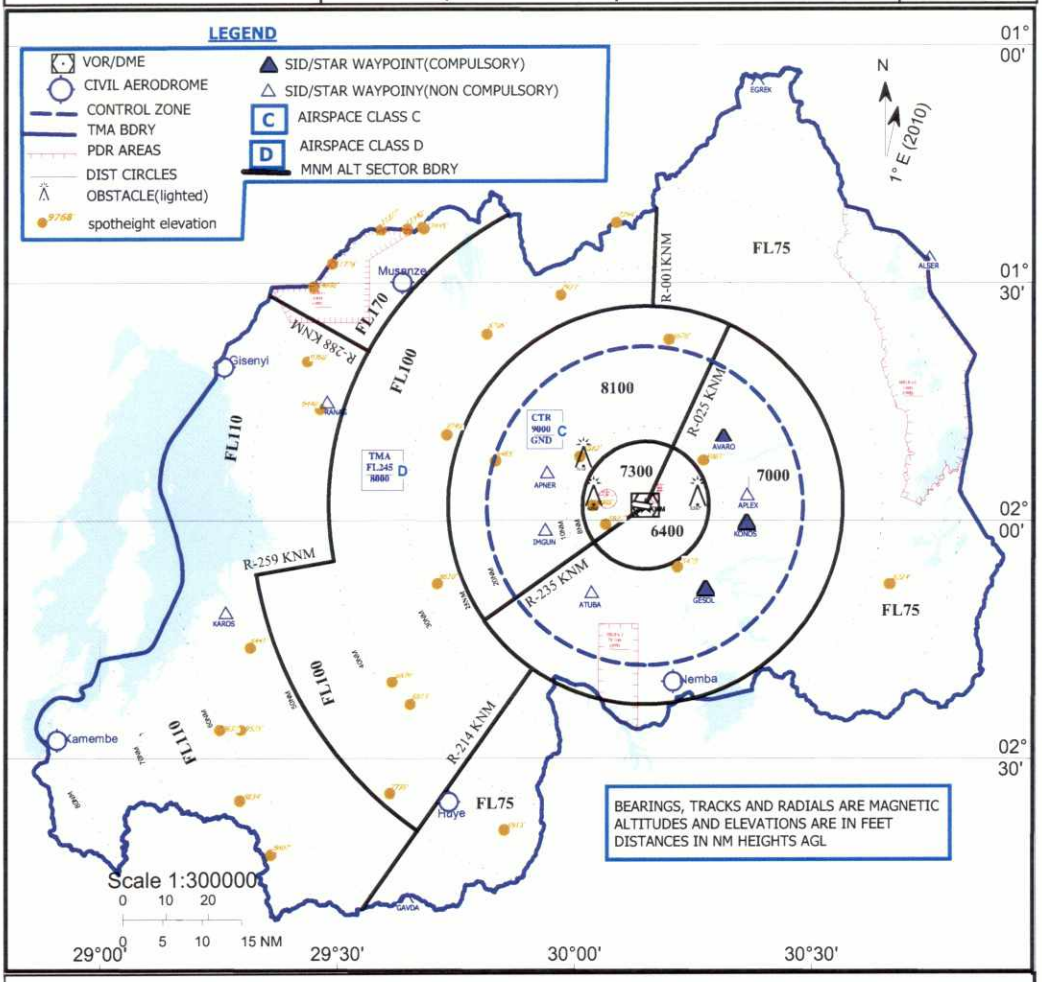
2.5.2 Failure after departure

In case of a transponder failure which is detected before departure from an aerodrome where it is not practicable to effect a repair, the aircraft concerned should be permitted to proceed, as directly as possible, to the nearest suitable aerodrome where repair can be made. When granting clearance to such aircraft, ATC should take into consideration the existing or anticipated traffic situation and may have to modify the time of departure, flight level or route of the intended flight. Subsequent adjustments may become necessary during the course of the flight.

2.6 Unlawful interference procedure

Pilots of aircraft in flight subjected to unlawful interference shall endeavour to set the transponder to Mode A, Code7500 to make the situation known, unless circumstances warrant the use of Mode A/B, Code 77 (or 7700).

ATC SURVEILLANCE MINIMUM ALTITUDE CHART-ICAO	AD ELEV 4883	TRANSITION ALTITUDE 9000	SRE : 125.3Mhz(Primary) : 124.3Mhz(Secondary) TWR: 118.3Mhz	KIGALI AIRPORT



ATC Surveillance Minimum Altitudes:

1) **6400** in the sector defined by lateral limits: R-025 KNM/8NM thence clockwise along an arc of a circle radius 8NM cetred on KNM until intercepting R-235KNM and back to KNM.

2) **7300** in the sector defined by lateral limits: R-235 KNM/8NM thence clockwise along an arc of a circle radius 8NM cetred on KNM until intercepting R-025KNM and back to KNM.

3) **7000** in the sector defined by lateral limits: R-025 KNM / 25NM thence clockwise along an arc of a circle radius 25NM cetred on KNM untilintercepting R-235KNM and back to KNM.

4) **8100** in the sector defined by lateral limits: R-235 KNM / 25NM thence clockwise along an arc of a circle radius 25 NM cetred on KNM untilintercepting R-025KNM and back to KNM.

5) **FL75 in the sector defined by lateral limits:** R-001KNM / 25NM along R-001KNM to TMA bdry thence clockwise along TMA bdry untilintercepting R-214KNM

6) **FL100 in the sector defined by lateral limits:** R-214KNM / 50NM thence clockwise along an arc of a circle radius 50 NM cetred on KNM untilintercepting R-259KNM then to R-259KNM / 40NM thence clockwise along an arc of a circle radius 40 NM cetred on **KNM until** TMA bdry thencealong the TMAbdry untill intercepting R-001KNM.

7) **FL110** in the sector defined by lateral limits: R-214 KNM / 50NM along R-214KNM to TMA bdry thence clockwise along the TMA bdry untillintercepting R-288KNM to R-288KNM/40NM to R-259KNM/40NM to R-259KNM/50NM to R-214 KNM / 50NM.

8) **FL170** in the sector defined by lateral limits: R-288KNM / 40NM thence clockwise along the TMA bdry then along an arc of a circle radius 40 NM cetred on **KNM to R-288KNM/40NM.**

LOSS OF COMMUNICATION PROCEDURES

Controlled ACFT experiencing complete radio communication failure shall be separated from other identified acft using applicable horizontal and vertical separation.