

**ENR 1.6 Radar services and procedures****ENR 1.6 Радарски услуги и процедури**

Applicable ICAO Documents:

ANNEX 10 Volume N

Surveillance Radar and Collision Avoidance System

Doc 4444

Rules of the Air and Air Traffic Services (PANS-RAC)

Doc 7030

Regional Supplementary Procedures

Doc 8168 Volume 1

Aircraft operations (PANS-OPS)- Flight Procedure

The provision of radar services is based on en-route and approach radar facilities on Macedonian territory augmented by additional radar information from facilities in Bulgaria and Greece.

**1.6.1 Primary radar****1.6.1 Примарен радар****1.6.1.1 Supplementary Services****1.6.1.1**

**1.6.1.1.1** A radar unit normally operates as an integral part of the parent ATS unit and provides radar services to aircraft, to the maximum extent practicable, to meet the operational requirements.

Many factors, such as radar coverage, controller workload and equipment capabilities, may affect these services, and the radar controller shall determine the practicability of providing or continuing to provide radar services in any specific case.

**1.6.1.1.2** A pilot will know when radar services are being provided because the radar controller will use the following call sign:

- a. Aircraft under area control - SKOPJE RADAR
- b. Aircraft under approach control - SKOPJE APPROACH RADAR

**1.6.1.1.3** Skopje Area Control and Skopje Approach Control services operate three radar stations:

- a. SK - station at airport Skopje (MSSR), range 200 NM, 41°57'30"N, 021°38'31"E
- b. BR - station at Banjski Rid Hill (PSR and MSSR), 41°57'34"N, 021°38'31"E, range PSR 60 NM, MSSR 200 NM
- c. OH - station at Gorenicka Cuka (MSSR), range 200 NM, 41°10'57"N, 020°46'15"E

**1.6.1.2 The application of radar control services****1.6.1.2**

**1.6.1.2.1** Radar identification is achieved according to the provisions specified by ICAO.

**1.6.1.2.2** Radar control services is provided in controlled airspace to aircraft operating within the CTA/UTA Skopje and TMA Skopje. These services may include:

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- 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.
- f. Warnings and position information on other aircraft considered to constitute a hazard.
- g. Information to assist in the navigation of aircraft.

**1.6.1.2.3** The minimum horizontal radar separation is 5 NM.

**1.6.1.2.4** Levels assigned by the radar controller to pilots will provide a minimum terrain clearance according to the phase of flight.

**1.6.1.2.5** Final Radar Approaches

- a. surveillance radar approach - SRA is not applicable
- b. precision radar approach - PAR is not applicable

**1.6.1.2.6** Flight Information Services

Skopje Information may use radar derived information in the provision for flight information service in class E and G airspace. Radar serves only as an aid to provide pilots with more accurate flight information. It does not mean that this aircraft is under radar control and it does not relieve the pilot in command from his responsibilities. The pilot has to make the final decision regarding any suggested alteration of the flight plan.

**1.6.1.3** Radar and air-ground communication failure procedures

**1.6.1.3**

**1.6.1.3.1** Radar failure

**1.6.1.3.1.1** In the event of radar failure or loss of radar identification, instructions will be issued to restore non-radar standard separation on the frequency of the ATC unit considered.

**Note:** As an emergency measure, use of flight levels separated by 500 ft below FL290 or 1000 ft at or above FL290 may be restored to temporarily if standard non-radar separation cannot be provided immediately.

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**1.6.1.3.1.2** The radar controller will inform pilots about the termination of radar service. Exception are occasions when exists assurance that the radar failure will be of a very limited duration.

**1.6.1.3.2** Radio failure

**1.6.1.3.2.1** The radar controller shall establish whether the aircraft radio receiver is working by instructing the pilot to carry out a turn or turns. If the turns are observed the radar controller will continue to provide radar service to the aircraft.

**1.6.1.3.2.2** If the aircraft' radio is completely unserviceable the pilot should carry out the procedures for radio failure in accordance with ICAO provisions. If radar identification has already been established the radar controller will vector other identified aircraft clear of its track until such time as the aircraft leaves radar cover.

**1.6.1.4** Graphic portrayal of area of radar coverage.

**1.6.1.4**

Under construction.

**1.6.2 Secondary surveillance radar (SSR)**

**1.6.2 Секундарен надзорен радар (SSR)**

**1.6.2.1** General.

**1.6.2.1**

The carriage of the serviceable transponder capable of replying to Mode A and C is compulsory for all aircraft operating in Class C and D airspace within FIR Skopje. An exemption from observing this rule may be granted for a particular flight provided that the request is made prior such flight. The request can be made by telephone to the authority having jurisdiction over the airspace concerned.

**1.6.2.2** Emergency Procedures

**1.6.2.2.1** Except when encountering a state of emergency, pilots shall operate transponders and select modes and codes in accordance with ATC instructions. In particular, when entering Skopje FIR, UIR pilots who have already received specific instructions from ATC concerning the setting of the transponder shall maintain that setting unless otherwise instructed.

**1.6.2.2.2** 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.

**1.6.2.2.3** In all other circumstances, the transponder shall be set to mode A/3 code 7700. Notwithstanding the procedure in 1.6.2.2.1 above, a pilot may select mode #A, code 7700 whenever the nature of the emergency is such that this appears to be the most suitable course of action.

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**Note:** Continuous monitoring of responds on Mode A/3, Code 7700 is provided.

### 1.6.2.3 Air-ground communication failure and unlawful interference procedures

#### 1.6.2.3.1 Air-ground communication failure procedure.

In the event of an aircraft radio receiver failure a pilot shall select Mode A/3 code 7600 and follow established procedures, subsequent control the aircraft will be based on those procedures.

#### 1.6.2.3.2 Unlawful interference procedure

Pilot of aircraft in flight subject to unlawful interference shall endeavor to set the transponder to Mode A/B, Code 7500 to make the situation known unless the circumstances warrant the use of Mode A/B, code 7700.

**Note:** Mode A, Code 7500 is permanently monitored.

### 1.6.2.4 SSR Codes for special purposes ATS surveillance services and procedures

#### 1.6.2.4.1 The following codes are used for designated flights:

- Code 2000 is always set by pilot in command of a controlled flight unless otherwise instructed by the ATC unit.
- Code 7000 is always set by pilot in command of an uncontrolled VFR flight unless otherwise instructed by the ATC/FIS unit.

### 1.6.2.5 ACAS Procedures

#### 1.6.2.5.1 Responsibility during Airborne Collision Avoidance System (ACAS) operation within the airspace of FIR Skopje.

When a pilot deviates from an air traffic clearance or instruction in response to an ACAS resolution advisory the air traffic control service is not responsible for preventing collisions until the flight path is returned to the limits of air traffic control clearance or instructions.

#### 1.6.2.6 System of SSR Code assignment

Codes are assigned according to ORCAM.

#### 1.6.2.7 Graphical portrayal of area of SSR coverage

See "ATC Surveillance Minimum Flight Altitude" chart