



SIERRA LEONE CIVIL AVIATION AUTHORITY

ADVISORY CIRCULAR

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Guidance for Determining the Capacity of the ATS System

A handwritten signature in blue ink, appearing to read 'M. Ban', is positioned to the left of the official seal.



Director General

Sierra Leone Civil Aviation Authority

1. GENERAL

The Sierra Leone Civil Aviation Authority's Advisory Circulars contains information about standards, practices and procedures that the Authority has found to be an Acceptable Means of Compliance (AMC) with the associated Regulations.

An AMC is not intended to be the only means of compliance with a Regulation, and consideration will be given to other methods of compliance that may be presented to the Authority

Information considered directive in nature is described in this AC in terms such as "shall" and "must", indicating the actions are mandatory. Guidance information is described in terms such as "should" and "may" indicating the actions are desirable or permissive, but not mandatory

1.1 Purpose

This guidance provides instruction for the development and review of the procedures for determining the capacity of the ATS system, including the number of staff required.

1.2 Applicability

This AC is applicable to Air Navigation Service Providers (ANSPs) providing Air traffic services in Sierra Leone.

1.3 Description of Changes

This AC is the first to be issued on this subject

1.4 References

- (a) SLCAR Part 11- Air Traffic Services
- (b) ICAO PANS ATM DOC 4444 3.1, 2 & 3
- (c) ICAO Doc 9426 – ATS Planning Manual

1.5 Cancelled Documents

Not Applicable

2. BACKGROUND

The need for the ANSP to have these procedures in place for ATC Staff is to ensure that service provision is appropriate and adequate to determine the capacity of the ATS system, including the number of staff required

3. GUIDANCE

3.1 The capacity of an ATS

3.1.1 The capacity of an ATS system depends on many factors,

- (a) the ATS route structure,
- (b) the navigation accuracy of the aircraft using the airspace,
- (c) weather-related factors, and

- (d) Workload. Every effort should be made to provide sufficient capacity to cater to both normal and peak traffic levels; however, in implementing any measures to increase capacity, the responsible ATS authority shall ensure, in accordance with the procedures specified in Chapter 2, of ICAO Doc. 4444 that safety levels are not jeopardized.
- 3.1.2 The number of aircraft provided with an ATC service shall not exceed that which can be safely handled by the ATC unit concerned under the prevailing circumstances. In order to define the maximum number of flights which can be safely accommodated, the appropriate ATS authority should assess and declare the ATC capacity for control areas, for control sectors within a control area and for aerodromes.
- 3.1.3 ATC capacity should be expressed as the maximum number of aircraft which can be accepted over a given period of time within the airspace or at the aerodrome concerned.
- 3.2 In assessing capacity values, factors to be taken into account should include, inter alia:
 - (a) The level and type of ATS provided;
 - (b) The structural complexity of the control area, the control sector or the aerodrome concerned;
 - (c) Controller workload, including control and coordination tasks to be performed;
 - (d) The types of communications, navigation and surveillance systems in use, their degree of technical reliability and availability as well as the availability of backup systems and/or procedures;
 - (e) Availability of ATC systems providing controller support and alert functions; and
 - (f) Any other factor or element deemed relevant to controller workload.
- 3.3 Enhancement of ATC capacity, the appropriate ATS authority should:
 - (a) Periodically review ATS capacities in relation to traffic demand; and
 - (b) Provide for flexible use of airspace in order to improve the efficiency of operations and increase capacity.
- 3.4 In order to prevent and mitigate against the effect of fatigue, the following guidelines are proposed to be implemented and monitored during the implementation of the ATCOs' rostering system. The rostering system shall include activities intended for the provision of ATC service and non-operational but profession-related activities of ATCOs.
Activities considered to be duties may be:
 - (a) ATC service provision
 - (b) Preparing, attending and delivering training
 - (c) Medical and language checks for certification purposes
 - (d) Maximum hours per duty period
 - (e) Maximum consecutive working days with duties
 - (f) The number of consecutive early morning shifts
 - (g) The average rest period after a duty period
 - (h) Breaks within a duty period
 - (i) Maximum time providing ATC service without breaks