



SEYCHELLES TECHNICAL STANDARDS

STS-ANS

Air Navigation Standards

Seychelles Technical Standards

STS-ANS

Air Navigation Standards

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FOREWORD

- 1 STS-ANS is derived from Annex 1 of **Commission Implementing Regulation (EU) 2017/373 of 1st March 2017, laying down common requirements for providers of air traffic management/air navigation services and other air traffic management network functions and their oversight**, of the European Aviation Safety Agency. It lays down the general requirements to be met by air navigation services providers in Seychelles.
- 3 The basic organisation of STS-ANS (Subparts and rules numbers) follows strict conformance with that adopted for other European standards promulgated by EASA.
- 4 STS-ANS will only be distributed electronically by the Authority as a complete document and as such a list of effective pages is not considered necessary.
- 5 Amendments to STS-ANS will be in accordance with Chapter 2, 2.4 and 2.5 of the Manual for processing ICAO State Letters and Other Correspondences and Chapter 2, 2.3, 2.4, 2.5 and 2.6 of TP ANS 02, ANS Safety Oversight Manual. Each amendment will be distributed as a complete amending document with deleted text indicated by a strikethrough and new text highlighted in grey, until a subsequent amended issue is published. Each page will also indicate the amendment date and amendment number. For clarity and simplification, all pages of the respective section will have the same amendment status upon amendment of one or more rules. The amendment records page will detail each amendment.

AMENDMENT RECORDS

Amendment No.	Subject	Source	Section affected	Entered by (Date)	Effective Date
-	Initial issue				01 July 2017
01	Occurrence reporting	Air Navigation Services Provider; DIRECTIVE 2003/42/EC	ANS.1035	Joseph G. Lajoie	01 Dec 2020

COMMON REQUIREMENTS FOR AIR NAVIGATION SERVICES**SECTION 1 – GENERAL REQUIREMENTS****SUBPART A — APPLICABILITY AND DEFINITION OF TERMS****ANS.1001 Applicability**

- (a) STS-ANS prescribes the common requirements applicable for the provision of air navigation services which shall include:
 - (1) Air Traffic Services;
 - (2) Aviation Meteorological Services;
 - (3) Aeronautical Information Services;
 - (4) Communication, Navigation and/or Surveillance Services;
 - (5) PANS OPS Services;
 - (6) Aeronautical Chart Services; and
 - (7) Search and Rescue Services
- (b) Air navigation services for general air traffic within the scope of national aviation legislation shall only be provided by designated air navigation service providers in accordance this STS.
- (c) STS-ANS does not apply to:
 - (1) activities other than the provision of air navigation services by a provider; nor
 - (2) resources allocated to activities outside the provisions of air navigation services.

ANS.1005 Definition of terms

- (a) The following terms apply to all Subparts of this STS:
 - (1) **‘acceptable means of compliance (AMC)’** means non-binding standards adopted by the Authority to illustrate means to establish compliance with Civil Aviation (Safety) Regulations, 2017 and the implementing regulations;
 - (2) **‘aerial work’** means an aircraft operation in which an aircraft is used for specialised services such as agriculture, construction, photography, surveying, observation and patrol, search and rescue or aerial advertisement;
 - (3) **‘aircraft’** means any machine that can derive support in the atmosphere from the reactions of the air other than the reactions of the air against the earth’s surface;
 - (4) **‘air navigation services’** means services provided to air traffic during all phases of operations including air traffic management (ATM), communication, navigation and surveillance (CNS), meteorological services for air navigation (MET), aeronautical information services (AIS), flight procedure design services (PANS OPS), aeronautical charts services (ACS) and civil search and rescue (SAR).
 - (5) **‘air navigation service provider’** shall mean any organisation providing air traffic, aviation meteorology, aeronautical information, communication, navigation and/or surveillance, flight procedures design, aeronautical chart and civil search and rescue services.
 - (6) **‘argument’** means a claim that is supported via inferences by a body of evidence;
 - (7) **‘audit’** means a systematic, independent and documented process for obtaining evidence and evaluating it objectively to determine the extent to which requirements are complied with;
 - (8) **‘Authority’** shall mean the Safety Regulation Division (SRD) designated the responsibility of providing safety oversight.
 - (9) **‘aviation undertaking’** means an entity, person or organisation, other than the service providers regulated by this STS that is affected by or affects a service delivered by a service provider;
 - (10) **‘commercial air transport’** means any aircraft operation involving the transport of passengers, cargo or mail for remuneration or hire;
 - (11) **‘functional system’** means a combination of procedures, human resources and equipment, including hardware and software, organised to perform a function within the context of ATM/ANS and other ATM network functions;

- (12) **'general aviation'** means any civil aircraft operation other than aerial work or commercial air transport;
- (13) **'hazard'** means any condition or object with the potential of causing injuries to person, damage to equipment or structure, loss of material or reduction of the ability to perform prescribed function;
- (14) **'risk'** means the assessment, expressed in terms of predicted probability and severity, of the consequence(s) of a hazard taking as reference the worst foreseeable situation;
- (15) **'safety directive'** means a document issued or adopted by the Authority which mandates actions to be performed on a functional system or sets restrictions to its operational use to restore safety when evidence shows that aviation safety may otherwise be compromised;
- (16) **'services'** shall mean either an air navigation service or a bundle of air navigation services.

SUBPART B – REQUIREMENTS FOR SAFETY OVERSIGHT PURPOSES**ANS.1010 Demonstration of compliance**

An air navigation service provider shall provide all the relevant evidence to demonstrate compliance with the applicable requirements of this STS at the request of the Authority.

ANS.1015 Changes to functional systems

- (a) An air navigation service provider planning a change to its functional system or a change that affects the functional system shall:
 - (1) notify the Authority of the change;
 - (2) provide the Authority, if requested, with any additional information that allows the Authority to decide whether or not to review the argument for the change; and
 - (3) inform other air navigation service providers and, where feasible, aviation undertakings affected by the planned change.
- (b) Having notified a change, the air navigation service provider shall inform the Authority whenever the information provided in accordance with points (a) (1) and (2) is materially modified, and the relevant air navigation service providers and aviation undertakings whenever the information provided in accordance with point (a) (3) is materially modified.
- (c) An air navigation service provider shall only allow the parts of the change, for which the activities required by the procedures referred to in ANS.1055 have been completed, to enter into operational service.
- (d) If the change is subject to Authority review, the air navigation service provider shall only allow the parts of the change for which the Authority has accepted the argument to enter into operational service.
- (e) When a change affects other service providers and/or aviation undertakings, as identified in point (a) (3), the air navigation service provider and these other service providers, in coordination, shall determine:
 - (1) the dependencies with each other and, where feasible, with the affected aviation undertakings; and
 - (2) the assumptions and risk mitigations that relate to more than one service provider or aviation undertaking.
- (f) Those service providers affected by the assumptions and risk mitigations referred to in point (e) (2) shall only use, in their argument for the change, agreed and aligned assumptions and risk mitigations with each other and, where feasible, with aviation undertakings.

ANS.1020 Facilitation and cooperation

An air navigation service provider shall facilitate inspections and audits by the Authority or by a qualified entity acting on its behalf and it shall cooperate as necessary for the efficient and effective exercise of the powers of the Authority referred to in regulation 93 of Civil Aviation (Safety) Regulations, 2017.

ANS.1025 Findings and corrective actions

After receipt of notification of findings from the Authority, the air navigation service provider shall:

- (a) identify the root cause of the non-compliance;
- (b) define a corrective action plan that meets acceptance by the competent authority; and
- (c) demonstrate corrective action implementation to the satisfaction of the Authority within the time period proposed by the service provider and agreed with Authority.

ANS.1030 Immediate reaction to a safety problem

An air navigation service provider shall implement any safety measure, including safety directive, mandated by the Authority in accordance with Part 19 of the Civil Aviation (Safety) Regulations, 2017.

ANS.1035 Occurrence reporting

- (a) An air navigation service provider shall report to the Authority, and to any other organisation required by the Authority, any occurrence in accordance with Part 20 of the Civil Aviation (Safety) Regulations, 2017.
- (b) Without prejudice to requirement (a), the air navigation service provider shall report to the Authority and to the organisation responsible for the design of system and constituents, if different from the air navigation service provider, any malfunction, technical defect, exceeding of technical limitations, occurrence, or other irregular

circumstance that has or may have endangered the safety of services and that has not resulted in an accident or serious incident. Appendix 1 of this STS provides a list of air navigation services related occurrences to be reported.

- (c) Without prejudice to Part 20 of the Civil Aviation (Safety) Regulations, 2017, the reports referred to in requirements (a) and (b) shall be made in a form and manner established by the Authority and contain all the pertinent information about the event known to the air navigation service provider.
 - (1) Reports shall be made as soon as possible and in any case within 72 hours of the service provider identifying the details of the event to which the report relates unless exceptional circumstances prevent this.
 - (2) Without prejudice to Part 20 of the Civil Aviation (Safety) Regulations, 2017, where relevant, the air navigation service provider shall produce a follow-up report to provide details of actions it intends to take to prevent similar occurrences in the future, as soon as these actions have been identified. This report shall be produced in a form and manner established by the Authority.

SUBPART C – MANAGEMENT**ANS.1040 Technical and operational competence and capability**

An air navigation service provider shall ensure that it is able to provide its services in a safe, efficient, continuous and sustainable manner, consistent with any foreseen level of overall demand for a given airspace. To this end, it shall maintain adequate technical and operational capacity and expertise.

ANS.1045 Open and transparent provision of service

- (a) Air navigation service providers shall provide their services in an open and transparent manner. They shall publish the conditions of access to their services and establish a formal consultation process with the users of their services on a regular basis, either individually or collectively, and at least once a year.
- (b) Air navigation service providers shall not discriminate on grounds of nationality or identity of the user or the class of users in accordance with applicable law.

ANS.1050 Management system

- (a) An air navigation service provider shall implement and maintain a management system which is acceptable to the Authority, that includes:
 - (1) clearly defined lines of responsibility and accountability throughout its organisation, including a direct accountability of the accountable manager;
 - (2) a description of the overall philosophies and principles of the service provider with regard to safety, quality, and security of its services, collectively constituting a policy, signed by the accountable manager;
 - (3) the means to verify the performance of the service provider's organisation in light of the performance indicators and performance targets of the management system;
 - (4) a process to identify changes within the service provider's organisation and the context in which it operates, which may affect established processes, procedures and services and, where necessary, change the management system and/or the functional system to accommodate those changes;
 - (5) a process to review the management system, identify the causes of substandard performance of the management system, determine the implications of such substandard performance, and eliminate or mitigate such causes;
 - (6) a process to ensure that the personnel of the service provider are trained and competent to perform their duties in a safe, efficient, continuous and sustainable manner. In this context, the service provider shall establish policies for the recruitments and training of its personnel; and
 - (7) a formal means for communication that ensures that all personnel of the service provider are fully aware of the management system, that allows critical information to be conveyed and that makes it possible to explain why particular actions are taken and why procedures are introduced or changed.
- (b) An air navigation service provider shall document all management system key processes, including a process for making personnel aware of their responsibilities, and the procedure for the amendment of those processes.
- (c) An air navigation service provider shall establish a function to monitor compliance of its organisation with the applicable requirements and the adequacy of the procedures. Compliance monitoring shall include a feedback system of findings to the accountable manager to ensure effective implementation of corrective actions as necessary.
- (d) An air navigation service provider shall monitor the behaviour of its functional system and, where underperformance is identified, it shall establish its causes and eliminate them or, after having determined the implication of the underperformance, mitigate its effects.
- (e) The management system shall be proportionate to the size of the air navigation service provider and the complexity of its activities, taking into account the hazards and associated risks inherent in those activities.
- (f) Within its management system, the air navigation service provider shall establish formal interfaces with the relevant service providers and aviation undertakings in order to:
 - (1) ensure that the aviation safety hazards entailed by its activities are identified and evaluated, and the associated risks are managed and mitigated as appropriate; and
 - (2) ensure that it provides its services in accordance with the requirements of this STS.

ANS.1055 Change management procedures

- (a) An air navigation service provider shall use procedures to manage, assess and, if necessary, mitigate the impact of changes to its functional systems in accordance with ANS.1015, ANS.1105, ATS.1020 and ATS.1025, as applicable.
- (b) The procedures referred to in point (a) or any material modification to those procedures shall:
 - (1) be submitted, for acceptance, by the service provider to the Authority; and
 - (2) not be used until accepted by the Authority.
- (c) When the accepted procedures referred to in point (b) are not suitable for a particular change, the air navigation service provider shall:
 - (1) make a request to the competent authority for an exemption to deviate from the accepted procedures;
 - (2) provide the details of the deviation and the justification for its use to the Authority; and
 - (3) not use the deviation before being accepted by the Authority.

ANS.1060 Contracted activities

- (a) Contracted activities include all the activities within the scope of the air navigation service provider's operations, in accordance with the terms of the certificate, that are performed by other organisations either themselves certified to carry out such activity or if not certified, working under the service provider's oversight. An air navigation service provider shall ensure that when contracting or purchasing any part of its activities to external organisations, the contracted or purchased activity, system or constituent conforms to the applicable requirements.
- (b) When an air navigation service provider contracts any part of its activities to an organisation that is not itself certified in accordance with this STS to carry out such activity, it shall ensure that the contracted organisation works under its oversight. The service provider shall ensure that the Authority is given access to the contracted organisation to determine continued compliance with the applicable requirements under this STS.

ANS.1065 Personnel requirements

- (a) An air navigation service provider shall appoint an accountable manager, who has the authority over ensuring that all activities can be financed and carried out in accordance with the applicable requirements. The accountable manager shall be responsible for establishing and maintaining an effective management system.
- (b) An air navigation service provider shall define the authority, positions, responsibilities and functions of the key post holders, in particular of the management personnel in charge of safety, quality, security, finance and human resources-related functions as applicable. The air navigation service provider shall also define the positions, responsibilities and functions of its operational and technical staff.
- (c) An air navigation service provider shall establish policies and procedures for the adequate recruitment and training and retention of personnel to ensure safe and efficient delivery of its services.

ANS.1070 Facilities requirements

An air navigation service provider shall ensure that there are adequate and appropriate facilities to perform and manage all tasks and activities in accordance with the applicable requirements.

ANS.1075 Record keeping

- (a) An air navigation service provider shall establish a system of record keeping that allows adequate storage and reliable traceability of all its activities, covering in particular all the elements indicated in ANS.1050.
- (b) The format and the retention period of the records referred to in point (a) shall be specified in the air navigation service provider's management system procedures.
- (c) Records shall be stored in a manner that ensures protection against damage, alteration and theft.

ANS.1080 Operations manuals

- (a) An air navigation service provider shall provide and keep up to date its operations manuals relating to the provision of its services for the use and guidance of operations personnel.
- (b) The air navigation service provider shall ensure that:
 - (1) operations manuals contain the instructions and information required by the operations personnel to perform their duties;

- (2) relevant parts of the operations manuals are accessible to the personnel concerned; and
- (3) the operations personnel are informed of amendments to the operations manual applying to their duties in a manner that enables their application as of their entry into force.

ANS.1085 Security management

- (a) An air navigation service provider shall, as an integral part of its management system, as required by ANS.1050, establish a security management system to ensure:
 - (1) the security of its facilities and personnel so as to prevent unlawful interference with the provision of services; and
 - (2) the security of operational data it receives or produces or otherwise employs, so that access to it is restricted only to those authorised.
- (b) An air navigation service provider shall take the necessary measures to protect its system, constituents in use and data and prevent compromising the network against information and cyber security threats which may have an unlawful interference with the provision of its service.
- (c) The security management system shall define:
 - (1) the procedures relating to security risk assessment and mitigation, security monitoring and improvement, security reviews and lesson dissemination;
 - (2) the means designed to detect security breaches and to alert personnel with appropriate security warnings; and
 - (3) the means of controlling the effects of security breaches and to identify recovery action and mitigation procedures to prevent re-occurrence.

ANS.1090 Security clearance of personnel

- (a) An air navigation service provider shall ensure the security clearance of its personnel, if appropriate, and coordinate with the relevant civil and military authorities to ensure the security of its facilities, personnel and data.

ANS.1095 Contingency plans

An air navigation service provider shall have in place contingency plans for all the services it provides in the case of events which result in significant degradation or interruption of its operations.

SUBPART D – SPECIFIC ORGANISATIONAL REQUIREMENTS FOR SERVICE PROVIDERS OTHER THAN THE AIR TRAFFIC SERVICES PROVIDER**ANS.1100 Safety support assessment and assurance of changes to the functional system**

- (a) For any change notified in accordance with ANS.1015 (a) (1), the service provider other than the air traffic services provider shall:
 - (1) ensure that a safety support assessment is carried out covering the scope of the change which is:
 - (i) the equipment, procedural and human elements being changed;
 - (ii) interfaces and interactions between the elements being changed and the remainder of the functional system;
 - (iii) interfaces and interactions between the elements being changed and the context in which it is intended to operate;
 - (iv) the life cycle of the change from definition to operations including transition into service; and
 - (v) planned degraded modes; and
 - (2) provide assurance, with sufficient confidence, via a complete, documented and valid argument that the service will behave and will continue to behave only as specified in the specified context.
- (b) A service provider other than an air traffic services provider shall ensure that the safety support assessment referred to in point (a) comprises:
 - (1) verification that:
 - (i) the assessment corresponds to the scope of the change as defined in point (a) (1);
 - (ii) the service behaves only as specified in the specified context; and
 - (iii) the way the service behaves complies with and does not contradict any applicable requirements of this STS placed on the services provided by the changed functional system; and
 - (2) specification of the monitoring criteria necessary to demonstrate that the service delivered by the changed functional system will continue to behave only as specified in the specified context.

APPENDIX 1

LIST OF AIR NAVIGATION SERVICES REPORTABLE OCCURRENCES

Note 1: Although this appendix lists the majority of reportable occurrences, it cannot be completely comprehensive. Other occurrences, that are judged by those involved to meet the criteria, should also be reported.

Note 2: This appendix does not include accidents and serious incidents. Requirements covering the notification of accidents and serious incidents are promulgated in national accident and serious incident regulations.

Note 3: This appendix includes air navigation services-related occurrences which pose an actual or potential threat to flight safety, or can compromise the provision of safe air navigation services.

Note 4: The contents of this appendix shall not preclude the reporting of any occurrence, situation or condition which, if repeated in different, but likely circumstances or allowed to continue uncorrected, could create a hazard to flight safety.

- (a) Near collision incidents (encompassing specific situations where one aircraft and another aircraft/the ground/a vehicle/person or object are perceived to be too close to each other):
 - (1) separation minima infringement;
 - (2) inadequate separation;
 - (3) near-controlled flight into terrain (near CFIT);
 - (4) runway incursion where avoiding action was necessary.
- (b) Potential for collision or near collision (encompassing specific situations having the potential to be an accident or a near collision, if another aircraft is in the vicinity):
 - (1) runway incursion where no avoiding action is necessary;
 - (2) runway excursion;
 - (3) aircraft deviation from ATC clearance;
 - (4) aircraft deviation from applicable air traffic management (ATM) regulation:
 - (i) aircraft deviation from applicable published ATM procedures;
 - (ii) unauthorised penetration of airspace;
 - (iii) deviation from aircraft ATM-related equipment carriage and operations, as mandated by applicable
 - (iv) regulation(s).
- (c) ATM-specific occurrences (encompassing those situations where the ability to provide safe ATM services is affected, including situations where, by chance, the safe operation of aircraft has not been jeopardised). This shall include the following occurrences:
 - (1) inability to provide ATM services:
 - (i) inability to provide air traffic services;
 - (ii) inability to provide airspace management services;
 - (iii) inability to provide air traffic flow management services;
 - (2) failure of communication function;
 - (i) failure of surveillance function;
 - (ii) failure of data processing and distribution function;
 - (iii) failure of navigation function;
 - (iv) ATM system security.

The following subparagraphs give examples of reportable ATM and ATM-related occurrences resulting from the application of the general criteria listed in paragraph (c) above.

- (i) Provision of significantly incorrect, inadequate or misleading information from ground sources, e.g. air traffic control (ATC), automatic terminal information service (ATIS), meteorological services, navigation databases, maps, charts, manuals, etc.;

- (ii) Provision of less than prescribed terrain clearance;
- (iii) Provision of incorrect pressure reference data (i.e. altimeter setting);
- (iv) Incorrect transmission, receipt or interpretation of significant messages when this results in a hazardous situation;
- (v) Separation minima infringement;
- (vi) Unauthorised penetration of airspace;
- (vii) Unlawful radio communication transmission;
- (viii) Failure of ANS ground or satellite facilities;
- (ix) Major ATC/ATM failure or significant deterioration of aerodrome infrastructure;
- (x) Aerodrome movement areas obstructed by aircraft, vehicles, animals or foreign objects, resulting in a hazardous or potentially hazardous situation;
- (xi) Errors or inadequacies in marking of obstructions or hazards on aerodrome movement areas resulting in a hazardous situation;
- (xii) Failure, significant malfunction or unavailability of airfield lighting.

SECTION 2 – ACCEPTABLE MEANS OF COMPLIANCE AND INTERPRETATIVE AND EXPLANATORY MATERIAL (AMC & IEM)

1 GENERAL

- 1.1 This Section contains Acceptable Means of Compliance and Interpretative/Explanatory Material that has been agreed for inclusion in STS-ANS.
- 1.2 Where a particular STS paragraph does not have an Acceptable Means of Compliance or any Interpretative/Explanatory Material, it is considered that no supplementary material is required.

2 PRESENTATION

- 2.1 The Acceptable Means of Compliance and Interpretative/Explanatory Material are presented in full page width on loose pages, each page being identified by the date of issue and/or the Amendment number under which it is amended or reissued.
- 2.2 A numbering system has been used in which the Acceptable Means of Compliance or Interpretative/Explanatory Material uses the same number as the STS paragraph to which it refers. The number is introduced by the letters AMC or IEM to distinguish the material from the STS itself.
- 2.3 The acronyms AMC and IEM also indicate the nature of the material and for this purpose the two types of material are defined as follows:

Acceptable Means of Compliance (AMC) illustrates a means, or several alternative means, but not necessarily the only possible means by which a requirement can be met. It should however be noted that where a new AMC is developed, any such AMC (which may be additional to an existing AMC) will be amended into the document following consultation under the NPA procedure.

Interpretative/Explanatory Material (IEM) helps to illustrate the meaning of a requirement.

- 2.4 Explanatory Notes not forming part of the AMC or IEM text appear in a smaller typeface.
- 2.5 New, amended or corrected text is enclosed within heavy brackets.

ACJ/AMC/IEM A – Reserved

ACJ/AMC/IEM B – Reserved