

CIVIL AVIATION REGULATIONS

SURINAME

PART 17 - AERONAUTICAL TELECOMMUNICATIONS

VERSION 1.0

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17.1 GENERAL

17.1.1 Applicability

These Regulations apply to:

Any provider of aeronautical telecommunications systems and radio-navigation services in Suriname

17.1.2 Related Documents

The requirements of this Part must be read in conjunction with ICAO Annex 10 Volumes I to V inclusive, and ICAO Doc 8071 Volume I – Testing of Ground- Based Radio Navigation Systems.

The Standards of Annex 10 Volumes I to V are applicable when providing aeronautical telecommunications systems and radio-navigation services in Suriname.

17.1.3 Authorized personnel

17.1.3.1 An aeronautical telecommunications system and radio-navigational services provider shall ensure that any person authorized by the CASAS is allowed access to its facilities and equipment.

17.1.3.2 An aeronautical telecommunications system and radio-navigational services provider shall ensure that any person authorized by the CASAS shall have access to any documentation relating to the safety of aircraft in flight.

17.1.3.3 An aeronautical telecommunications system and radio-navigational services provider shall be responsible for ensuring that, if requested to do so by an authorized person, documentation is produced within a reasonable period of time.

17.2 AERONAUTICAL TELECOMMUNICATION AND RADIO NAVIGATION SERVICES AND FACILITIES

17.2.1 Aeronautical Telecommunication Services

17.2.1.1 Classification of Services

Aeronautical telecommunication services are the ground-based stations of those services defined hereunder supporting an Air Traffic Service provided under CARS Part 18. Airborne stations are not included.

- a) Aeronautical Broadcasting Service. A broadcasting service intended for the transmission of information relating to air navigation.
- b) Aeronautical Fixed Service. A telecommunication service between specified fixed points provided primarily for the safety of air navigation and for the regular, efficient and economical operation of air services.
- c) Aeronautical Fixed Telecommunication Network Service. A worldwide system of aeronautical fixed circuits provided, as part of the aeronautical fixed service, for the exchange of messages and/or digital data between aeronautical fixed stations having the same or compatible communication characteristics.

- d) Aeronautical Telecommunication Network Service. An inter-network that allows ground, air-ground and avionics data sub-networks to inter-operate by adopting common interface services and protocols based on the International Organization for Standardization (ISO) Open Systems Interconnect (OSI) reference model.
- e) Aeronautical Mobile Service. A mobile service between aeronautical ground stations and aircraft stations, in which survival craft stations may participate; emergency position-indicating radio-beacon stations may also participate in this service on distress and emergency frequencies. This service does not include ground stations that are provided for other than ATS purposes.
- f) Any telecommunication service which processes or displays air traffic control data (including aviation meteorological data) for use by an ATS provider under CARS Part 18.
- g) Electronic briefing and flight plan lodgment service for the use of pilots

17.2.2 Aeronautical Radio Navigation Services

17.2.2.1 Classification of Services

17.2.2.1.1 A radio navigation service intended for the benefit, and for the safe operation of aircraft.

17.2.2.1.2 A radio navigation service include radio determination (radar surveillance services) supporting ATS.

17.2.3 Aeronautical Telecommunication and Radio Navigation Facilities

17.2.3.1 Classification of Facilities

The following list classifies the kinds of facilities used for the provision of aeronautical telecommunication and radio navigation services:

- a) VHF air/ground voice communication facilities;
- b) HF air/ground voice communication facilities;
- c) Instrument Landing System facilities;
- d) Distance Measuring Equipment;
- e) VHF Omni-range (VOR) facilities;
- f) Non-directional beacons (NDB);
- g) Flight data processing facilities;
- h) Flight information facilities;
- i) Radar data processing facilities;
- j) Primary surveillance radar facilities;
- k) Secondary surveillance radar facilities;
- l) Automatic dependent surveillance system facilities;
- m) Voice switching and control facilities;
- n) ATS point to point communication facilities;
- o) Air/ground data links;
- p) Ground to ground data interchange networks;
- q) Human Machine Interface systems, including Tower Consoles, ATS Work Stations, and Display facilities;
- r) Uninterruptible and emergency power supplies;
- s) Essential services in buildings and in equipment shelters housing facilities (electrical power supplies, air-conditioning, and security facilities);
- t) Global Navigation Satellite System ground based augmentation stations or facilities;

- u) Aeronautical databases used in or by a facility;
- v) Meteorological Display Systems used for ATS;
- w) Voice and Data Recording facilities;
- x) Any other facilities supporting ATS provided under CARS Part 18.

17.3 OPERATIONAL REQUIREMENTS

17.3.1 Personnel requirements

- 17.3.1.1 An aeronautical telecommunications services provider shall employ, contract, or otherwise engage:
- 1) A senior person identified as the “chief executive” or accountable manager who—
 - (i) Has the authority within the providers organization to ensure that all activities undertaken by the organization can be financed and carried out to meet applicable operational requirements; and
 - (ii) Is responsible for ensuring that the organization complies with the requirements of this CARS.
 - 2) Sufficient personnel to inspect, supervise, operate and maintain the facilities listed in the providers exposition.
- 17.3.1.2 An aeronautical telecommunication services provider shall establish preset competency levels at all levels of staffing, and procedures to :
- 1) Regularly assess the competence of personnel; and
 - 2) Maintain the competence of personnel.

17.3.2 Aeronautical Facility Requirements

- 17.3.2.1 An aeronautical telecommunication services provider shall establish procedures to ensure that:
- 1) Each aeronautical facility listed in the providers exposition—
 - (i) Is designed, installed, and commissioned, to meet the applicable operational specification for that facility; and
 - (ii) Conforms to the applicable system characteristics and specification standards prescribed in CARS part 12 and 18, and in particular Annexes 10; and
 - (iii) Operated and maintained to specification standards.
 - 2) Aerodrome control towers and units providing approach and area control service shall be provided without delay with information on the operational status of radio navigation aids essential for approach, landing and take-off at the aerodrome(s) with which they are concerned; and
 - 3) Each aeronautical facility listed in the providers exposition is installed with suitable power supplies and means to ensure continuity of operation appropriate to the needs of the air traffic service or radio navigation service being supported; and
 - 4) Each aeronautical facility listed in the providers exposition is installed in accordance with the security program to minimize any risk of destruction, damage, or interference with the operation of the facility; and
 - 5) Any critical site area of any aeronautical facility listed in the providers exposition is:
 - (i) Clearly identified on the site drawings for the aeronautical facility; and
 - (ii) Physically protected by suitable signposts on the site; and
 - (iii) Protected by written agreements with the site owner, aerodrome operator, and air traffic control unit, as appropriate, to ensure that site restrictions are not infringed by buildings, fences, vehicles, machinery, or aircraft.

17.3.2.2 An aeronautical telecommunication services provider who intends to operate a temporary aeronautical facility to carry out site tests shall establish a procedure for conducting those tests.

17.3.2.3 The procedure required under paragraph 17.3.2.2 shall require that:

- a) The operation of the temporary facility does not cause any interference with any other operating aeronautical facility; and
- b) Appropriate information regarding the operation of the temporary facility is forwarded to the provider of the AIS for the issue of a NOTAM, and if appropriate the publication of a Supplement to the AIP; and
- c) An appropriate NOTAM has been published.

17.3.2.4 Should harmful interference be detected or reported during testing of a facility, the test shall be halted immediately and not resumed again until all necessary checks have been carried to minimize the risk of interference.

17.3.3 Documentation and data control

17.3.3.1 An aeronautical telecommunication services provider shall hold copies of relevant equipment manuals, technical standards, practices, instructions, forms, maintenance schedules, any document of the kind listed in Implementing Standard IS 17.3.3.1 and any other documentation that are necessary for, or created for, the provision and operation of the facilities listed in the providers exposition.

17.3.3.2 An aeronautical telecommunication services provider shall establish a procedure for the control of the documentation required under paragraph 17.3.3.1 and any other applicable part of this CARS.

17.3.3.3 The procedure required under paragraph 17.3.3.2 shall require that:

- a) All documentation is reviewed and authorized by an appropriate senior person referred to in 17.3.1.1(a) before issue; and
- b) Current issues of all relevant documentation are accessible to staff at all locations if required for the provision and operation of aeronautical facilities; and
- c) All obsolete documentation is promptly removed from all points of issue or use; and
- d) Changes to documentation are reviewed and authorized by an appropriate senior person referred to in 17.3.1.1.(a); and
- e) The current version of each item of documentation can be identified; and
- f) A master copy of the current version of each item of documentation is uniquely identifiable and securely store.

17.3.4 Periodic inspection and testing

17.3.4.1 An aeronautical telecommunication services provider shall establish a procedure for the periodic inspection and testing of the aeronautical facilities listed in the providers exposition to verify that each aeronautical facility meets the applicable operational requirements and performance specifications for that facility.

17.3.4.2 The procedure required under paragraph 17.3.4.1 shall:

- a) Include ground inspections and tests, and if necessary, flight tests; and
- b) Include the criteria for establishing or changing the interval between the periodic tests for each aeronautical facility listed in the exposition, having regard to:
 - (i) Any applicable information published by ICAO; and
 - (ii) Any applicable reliability data for the aeronautical facility; and
 - (iii) Information on the proven reliability performance of the aeronautical facility, and of other similar aeronautical facilities, and the stability of the aeronautical facility's operating environment; and

- c) Ensure that the grounds for establishing or changing the interval between the periodic tests for each aeronautical facility listed in the exposition are documented.
- 17.3.4.3 An aeronautical telecommunication services provider shall establish—
- A programme of periodic ground inspections for each aeronautical facility listed in the providers exposition; and
 - A programme of periodic ground tests for each aeronautical facility listed in the providers exposition; and
 - A programme of periodic flight tests for each radio navigation aid listed in the providers exposition unless the provider can establish from the criteria under paragraph 17.3.4.2 (b) that periodic ground tests can replace the periodic flight tests for the aeronautical facility without affecting the safety of air navigation.
- 17.3.4.4 The programs required by paragraphs 17.3.4.3(b) and 17.3.4.3 (c) shall be based on the criteria required under paragraph 17.3.4.2(b) and shall specify the maximum interval between the tests for each aeronautical facility.
- 17.3.4.5 An aeronautical telecommunication services provider shall notify the CASAS of any radio navigation aid that is not subjected to periodic flight tests.
- 17.3.4.6 An aeronautical telecommunication services provider shall ensure that the flight inspection unit and personnel conducting flight inspection are internationally recognized and acceptable to the CASAS.
- 17.3.5 Ensuring aeronautical facility performance**
- An aeronautical telecommunication services provider shall establish a procedure to ensure that no aeronautical facility listed in the providers exposition is released or placed into operational service unless:
- The person releasing from or placing the aeronautical facility into operational service is assessed as competent according to the procedures required under 17.3.1.2, being a holder of a valid license with current endorsements for that facility; and
 - For placing the aeronautical facility into operational service, the appropriate checks detailed in the operating and maintenance instructions required by 17.3.11 have been carried out to verify the performance of the aeronautical facility; and that
 - The aeronautical facility record has been completed according to the procedures required under 17.3.10 Records.
- 17.3.6 Inspection measuring and test equipment**
- 17.3.6.1 An aeronautical telecommunication services provider shall ensure that appropriate inspection, measuring, and test equipment is available for personnel to maintain the operation of each aeronautical facility listed in the providers exposition.
- 17.3.6.2 An aeronautical telecommunication services provider shall establish a procedure to control, calibrate, and maintain all the inspection, measuring, and test equipment required under paragraph 17.3.6.1 to ensure that each item of equipment has the precision and accuracy that is necessary for the measurements and tests to be performed.
- 17.3.6.3 The procedure required under paragraph 17.3.6.2 shall require that each item of test equipment required for the measurement of critical performance parameters is:
- Calibrated before use or at prescribed intervals with the calibration traceable to an appropriate national standard; and
 - Identified with a suitable indicator to show its calibration status; and

- c) Controlled to:
 - (i) Safeguard against adjustments that would invalidate the calibration setting; and
 - (ii) Ensure that the handling, preservation, and storage of the test equipment are such that its accuracy and fitness for use is maintained.
- 17.3.6.4 If hardware and software systems are used for the performance testing of any aeronautical facility, the procedures under paragraph 17.3.6.2 shall require the functions of those testing systems to be checked:
- a) Before being released for use; and
 - b) At prescribed intervals to establish that those testing systems are capable of verifying the true performance of the aeronautical facility.
- 17.3.7 Notification of aeronautical facility information**
- 17.3.7.1 An aeronautical telecommunication services provider shall establish a procedure to ensure that each applicable aeronautical facility listed in the applicant's exposition are informed to the AIS.
- 17.3.7.2 The procedure required under paragraph 17.3.7.1 shall include a means to confirm that:
- a) The operational details of the aeronautical facility as notified to AIS have been accurately published in the AIP; and
 - b) Any change to the operational status of the aeronautical facility has been published by NOTAM.
- 17.3.8 Post accident or incident aeronautical facility check**
- 17.3.8.1 An aeronautical telecommunication services provider shall establish a procedure to check and accurately record the operating condition of any aeronautical facility that may have been used by an aircraft, or an air traffic service, that is involved in an accident or incident.
- 17.3.8.2 The procedure required under paragraph 17.3.8.1 shall require that:
- a) The check of the aeronautical facility's operating condition is carried out as soon as practicable after notification to the aeronautical telecommunication service provider of the accident or incident; and
 - b) The record of that check, and the recorded history of the aeronautical facility, is kept in a secure place for possible use by any subsequent accident or incident investigation; and
 - c) The records secured under paragraph 17.3.8.2 (b) are retained for 7 years from the date of the last entry made on that record.
- 17.3.9 Facility malfunctions**
- An aeronautical telecommunication services provider shall establish procedures:
- 1) To notify, investigate, and report instances of aeronautical facility malfunctions;
 - 2) To implement corrective actions to eliminate the cause of a facility malfunction incident and prevent its recurrence;
 - 3) To report, repair and return to service aeronautical facility malfunctions according to the fault categorization; and
 - 4) For the release of aeronautical facility for maintenance; and
 - 5) That categorize the level of importance on the restoration of facility to service; and
 - 6) For the issuance of notice to airmen (NOTAM) on facility malfunctions and/or maintenance.
- 17.3.10 Records**
- 17.3.10.1 An aeronautical telecommunication services provider shall establish procedures to identify, collect, index, store, maintain, and dispose of the records that are necessary to record:
- a) The safe provision of the services for which the certificate has been granted for; and
 - b) The safe operation of each aeronautical facility listed in the providers exposition.

- 17.3.10.2 The procedures required under paragraph 17.3.10.1 shall require that accurate records of the following be maintained:
- a) For each aeronautical facility, a record—
 - (i) Documenting the operating performance of the aeronautical facility; and
 - (ii) Providing a history of the maintenance, and the periodic inspections and tests of the aeronautical facility, that are traceable to the person or persons responsible for each of the recorded activities; and
 - b) For each aeronautical facility, a record of the establishment of, or a change in, the periodic tests required by 17.3.4.1; and
 - c) For each item of test equipment required under 17.3.6.1 that is used for the measurement of an aeronautical facility's critical performance parameters, a record that includes a traceable history of the location, maintenance, and the calibration checks for the item of test equipment; and
 - d) For each facility malfunction incident reported under 17.3.9, a record that includes:
 - (i) Details of the nature of the malfunction; and
 - (ii) The findings of the investigation; and
 - (iii) The follow up corrective actions; and
 - (iv) Where applicable, a copy of the report submitted to the CASAS; and
 - e) A record of each internal; and
 - f) For each person who is licensed in accordance with 17.3.1.2, a record that includes details of the person's experience, qualifications, training, competence assessments, and current authorizations.

- 17.3.10.3 The procedures required under paragraph 17.3.10.1 shall require:
- a) All records to be legible and of a permanent nature; and
 - b) All aeronautical facility records required under paragraph 17.3.10.2(a) to be retained for a period of at least seven years unless a longer period is required:
 - (i) By the CASAS;
 - (ii) To establish a performance history for the aeronautical facility.

17.3.11 Operating and maintenance instructions

- 17.3.11.1 An aeronautical telecommunication service provider shall:
- a) Have operating and maintenance instructions that set out the requirements for operating and maintaining each aeronautical facility listed in its exposition; and
 - b) Provide the operating and maintenance instructions required under paragraph 17.3.11.1 (1) for the use and guidance of its personnel.
- 17.3.11.2 The operating and maintenance instructions required under paragraph 17.3.11.1 (1) shall include:
- 1) Details of the critical performance parameters for each aeronautical facility; and
 - 2) The associated minimum performance levels for those critical performance parameters referred to in paragraph 17.3.11.2 (1); and
 - 3) Details of the test equipment required for the measurement of those critical performance parameters referred to in paragraph 17.3.11.2 (1); and
 - 4) Details of the mandatory inspections and test procedures for the operational service; and
 - 5) Details of the mandatory inspection and test procedures for the operation and maintenance of each aeronautical facility.
- 17.3.11.3 The source of the maintenance procedures is to be made known.

- 17.4 AERONAUTICAL TELECOMMUNICATIONS SYSTEM AND RADIO-NAVIGATIONAL SERVICES PROVIDER TRAINING PROGRAM**
- 17.4.1 **Training Program**
A communication and navigation systems service provider shall establish procedures and programs for the training and assessment of all newly appointed and current staff.
- 17.4.2 **Training Syllabus**
A communication and navigation systems service provider shall establish procedures to ensure that the training programs for each course shall be comprehensive and facilitate achievement of training goals through a syllabus, which reflects required competencies. The syllabus must ensure compliance with relevant national and international requirements.
- 17.4.3 **Training Delivery and Assessment**
Training courses for staff of the communication and navigation systems service provider shall use a method of delivery consistent with using facilities and instructors, or training officers, with current expertise and identified qualifications appropriate to achieving the goals of the course.
- The method of assessment, both theoretical and practical, shall be qualified assessors and appropriate processes and facilities.
- 17.4.4 **Training Records**
Training records of the staff of the communication and navigation systems service provider shall be maintained to show what competences staff possess, and to show what training has been carried out, and the results of that training.
- 17.4.5 **Refresher Training**
Refresher training for the staff of the communication and navigation systems service provider involves periodic training and assessment of individuals performing functions in communication and navigation systems in those competencies (knowledge and skills) which are essential, but infrequently or rarely used. The content and periodicity of refresher training shall be sufficient to ensure competency.
- 17.4.6 **On-going Training**
The training program shall provide for on-going training of the staff of the communication and navigation systems service provider, as necessary, to ensure that staff are competent in the use of new or emerging standards, procedures, techniques, facilities and equipment identified as essential to task performance.
- 17.4.7 **Remedial Training**
The training program for the staff of the communication and navigation systems service provider shall have a process which identifies deficiencies in knowledge or application, and must have a process to ensure these deficiencies are rectified.
- 17.4.8 **Qualifications of Trainers and Checkers**
Persons carrying out training and/or checking functions as part of the communication and navigation systems service provider's training programme shall be appropriately qualified for these functions.

**CIVIL AVIATION REGULATIONS
SURINAME**

PART 17 - IMPLEMENTING STANDARDS

VERSION 1.0

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For ease of reference, the number assigned to each implementing standard corresponds to its associated regulation. For example, IS: 17.3.3.1 would reflect a standard required in subsection 17.3.3.1

IS: 17.3.3.1 TECHNICAL DOCUMENTS**Documents**

An aeronautical telecommunication services provider shall ensure that its personnel have easy access to those documents needed for technical applications and references.

Document Control

An aeronautical telecommunication services provider shall have in place a documentation control system that will ensure the documents as listed in below are timely amended and that there are procedures to ensure that technical personnel will be notified and that they have read/understood the amendments.

List of Publications and Documents

The minimum scale of fully amended publications and documents to be held at each aeronautical telecommunications unit and available for personnel to consult is as follows:

Minimum Scale of Publications & Documents	
All Current Suriname Civil Aviation Legislation	√
CARS part 17	√
Local Unit Instructions (for respective unit as applicable)	√
Temporary Aeronautical Telecommunication Service Instructions	√
NOTAMS (as relevant to its area of responsibility)	√
Aeronautical Information Circulars (AIC)	√
Aeronautical Information Publication & AIP Supplement	√
Aerodrome Manual (for respective airport as applicable)	√
Airport Emergency Plan (for respective aerodrome as applicable)	√
Doc 8071 – Manual on Testing Radio Navigational Aids (VOL I & II)	√
Doc 8259 – Manual on the Planning and Engineering of the Aeronautical Fixed Telecommunication Network	√
Doc 9432 – Manual of Radiotelephony	√
Doc 9613 – Manual of Required Navigation Performance (RNP)	√
Doc 9688 – Manual on Mode S Specific Services	√
Doc 9705 – Manual of Technical Provisions for the Aeronautical Telecommunication Network	√
Doc 9718 – Handbook on Radio Frequency Spectrum Requirements for Civil Aviation	√
Doc 9739 – Comprehensive Aeronautical Telecommunications Network (ATN) Manual	√
Doc 9776 – Manual on VHF Digital Link (VDL) Mode 2	√
Doc 9805 – Manual on VHF Digital Link (VDL) Mode 3	√
Doc 9816 – Manual on VHF Digital Link (VDL) Mode 4	√
Annex 10 – Aeronautical Telecommunications	√