

**STATUTORY INSTRUMENTS SUPPLEMENT**

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**S T A T U T O R Y I N S T R U M E N T S**

**2020 No. 26.**

**THE CIVIL AVIATION (AERONAUTICAL COMMUNICATION  
PROCEDURES) REGULATIONS, 2020**

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# STATUTORY INSTRUMENTS

2020 No. 26.

## **The Civil Aviation (Aeronautical Communication Procedures) Regulations, 2020**

*(Under section 61 of the Civil Aviation Authority Act, Cap 354)*

IN EXERCISE of the powers conferred upon the Minister responsible for civil aviation by section 61 of the Civil Aviation Authority Act, Cap 354 these Regulations are made this 05th day of February 2020.

### PART I— PRELIMINARY

#### **1. Title**

These Regulations may be cited as the Civil Aviation (Aeronautical Communication Procedures) Regulations, 2020.

#### **2. Interpretation**

In these Regulations, unless the context otherwise requires—

“Act” means the Civil Aviation Authority Act;

“aeronautical broadcasting service” means a broadcasting service intended for the transmission of information relating to air navigation;

“aeronautical fixed circuit” means a circuit forming part of the aeronautical fixed service (AFS);

“aeronautical fixed service (AFS)” means 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;

“aeronautical fixed station” means a station in the aeronautical fixed service;

“aeronautical fixed telecommunication network (AFTN)” means a worldwide system of aeronautical fixed circuits provided as part of the aeronautical fixed service for the exchange of messages or digital data between aeronautical fixed stations having the same or compatible communications characteristics;

“aeronautical fixed telecommunication network circuit” means a circuit forming part of the aeronautical fixed telecommunication network;

“aeronautical mobile (R)\* service” means an aeronautical mobile service reserved for communications relating to safety and regularity of flight, primarily along national or international civil air routes;

“aeronautical mobile service” means a mobile service between aeronautical stations and aircraft stations or between aircraft stations, in which survival craft stations may participate;

“aeronautical mobile-satellite (R)\* service” means an aeronautical mobile-satellite service reserved for communications relating to safety and regularity of flights, primarily along national or international civil air routes;

“aeronautical mobile-satellite service” means a mobile satellite service in which mobile earth stations are located on board aircraft;

“aeronautical radio navigation service” means a radio navigation service intended for the benefit and for the safe operation of aircraft;

“aeronautical station” means a land station in the aeronautical mobile service;



“aeronautical telecommunication agency” means an agency responsible for operating a station in the aeronautical telecommunication service;

“aeronautical telecommunication log” means a record of the activities of an aeronautical telecommunication station;

“aeronautical telecommunication service” means a telecommunication service provided for any aeronautical purpose;

“aeronautical telecommunication station” means a station in the aeronautical telecommunication service;

“AFTN destination station” means an AFTN station to which messages or digital data are addressed for processing for delivery to the addressee;

“AFTN origin station” means an AFTN station where messages or digital data are accepted for transmission over the AFTN;

“AFTN station” means a station forming part of the aeronautical fixed telecommunication network (AFTN) and operating as such under the authority or control of a State;

“aircraft operating agency” means the person, organization or enterprise engaged in, or offering to engage in an aircraft operation;

“aircraft station” means a mobile station in the aeronautical mobile service, other than a survival craft station, located on board an aircraft;

“air-ground communication” means a two-way communication between aircraft and stations or locations on the surface of the earth;

“air-ground control radio station” means an aeronautical telecommunication station having primary responsibility for handling communications pertaining to the operation and control of an aircraft in a given area;

air navigation services” means services provided to air traffic during all phases of operations including air traffic management, communications, navigation and surveillance, search and rescue, aeronautical information services and construction of instrument flight procedures;

“Air Navigation Services Provider (ANSP)” means a directorate in the authority designated for the purposes of operating and managing air navigation services;

“air-report” means a report from an aircraft in flight prepared in conformity with requirements for position and operational or meteorological reporting;

“altitude” means the vertical distance of a level, a point or an object considered as a point, measured from mean sea level (MSL);

“ATS direct speech circuit” means an aeronautical fixed service (AFS) telephone circuit, for direct exchange of information between air traffic services (ATS) units;

“authority” means the Uganda Civil Aviation Authority established under section 3 of the Act;

“automatic relay installation” means a teletypewriter installation where automatic equipment is used to transfer messages from incoming to outgoing circuits;

“broadcast” means a transmission of information relating to air navigation that is not addressed to a specific station or stations;

“communication centre” means an aeronautical fixed station which relays or retransmits telecommunication traffic from a number of other aeronautical fixed stations directly connected to it;

“current data authority” means the designated ground system through which a CPDLC dialogue between a pilot and a controller currently responsible for the flight is permitted to take place;

“downstream data authority” means a designated ground system, different from the current data authority, through which the pilot can contact an appropriate ATC unit for the purposes of receiving a downstream clearance;

“flight level” means a surface of constant atmospheric pressure which is related to a specific pressure datum, 1 013.2 hectopascals (hPa), and is separated from other surfaces by specific pressure intervals;

“free text message element” means a message element used to convey information not conforming to any standardized message element in the CPDLC message set;

“fully automatic relay installation” means a teletypewriter installation where interpretation of the relaying responsibility in respect of an incoming message and the resultant setting up of the connections required to effect the appropriate retransmissions is carried out automatically, as well as all other normal operations of relay, thus obviating the need for operator intervention, except for supervisory purposes;

“ground-to-air communication” means a one-way communication from stations or locations on the surface of the earth to aircraft;

“human performance” means human capabilities and limitations which have an impact on the safety and efficiency of aeronautical operations;

“international telecommunication service” means a telecommunication service between offices or stations of different States, or between mobile stations which are not in the same State, or are subject to different States;

“interpilot air-to-air communication” means a two-way communication on the designated air-to-air channel to enable aircraft engaged in flights over remote and oceanic areas out of range of VHF ground stations to exchange necessary operational information and to facilitate the resolution of operational problems;

“location indicator” means a four-letter code group formulated in accordance with rules prescribed by ICAO and assigned to the location of an aeronautical fixed station;

“message field” means an assigned area of a message containing specified elements of data;

“meteorological operational channel” means a channel of the aeronautical fixed service (AFS), for the exchange of aeronautical meteorological information;

“meteorological operational telecommunication network” means an integrated system of meteorological operational channels, as part of the aeronautical fixed service (AFS), for the exchange of aeronautical meteorological information between the aeronautical fixed stations within the network;

“Minister” means the Minister responsible for aviation;

“mobile surface station” means a station in the aeronautical telecommunication service, other than an aircraft station,

intended to be used while in motion or during halts at unspecified points;

“network station” means an aeronautical station forming part of a radiotelephony network;

“next data authority” means the ground system so designated by the current data authority through which an onward transfer of communications and control can take place;

“non-network communications” means radiotelephony communications conducted by a station of the aeronautical mobile service, other than those conducted as part of a radiotelephony network;

“NOTAM” means a notice distributed by means of telecommunication containing information concerning the establishment, condition or change in any aeronautical facility, service, procedure or hazard, the timely knowledge of which is essential to personnel concerned with flight operations;

“operational control communications” means communications required for the exercise of authority over the initiation, continuation, diversion or termination of a flight in the interest of the safety of the aircraft and the regularity and efficiency of a flight;

“pre-formatted free text message element” means a free text message element that is stored within the aircraft system or ground system for selection;

“primary frequency” means the radiotelephony frequency assigned to an aircraft as a first choice for air-ground communication in a radiotelephony network;

“radio direction finding (RR S1.12)” means radio determination using the reception of radio waves for the purpose of determining the direction of a station or object;

“radio direction-finding station (RR S1.91)” means a radio determination station using radio direction finding;

“radiotelephony network” means a group of radiotelephony aeronautical stations which operate on and guard frequencies from the same family and which support each other in a defined manner to ensure maximum dependability of air-ground communications and dissemination of air-ground traffic;

“read back” means a procedure whereby the receiving station repeats a received message or an appropriate part of the message back to the transmitting station so as to obtain confirmation of correct reception;

“regular station” means a station selected from stations forming an enroute air-ground radiotelephony network to communicate with or to intercept communications from aircraft in normal conditions;

“route segment” means a route or portion of route usually flown without an intermediate stop;

“routing directory” means a list in a communication centre indicating for each addressee the outgoing circuit to be used;

“secondary frequency” means the radiotelephony frequency assigned to an aircraft as a second choice for air-ground communication in a radiotelephony network;

“semi-automatic relay installation” means a teletypewriter installation where interpretation of the relaying responsibility in respect of an incoming message and the resultant setting up of the connections required to effect

the appropriate retransmissions require the intervention of an operator but where all other normal operations of relay are carried out automatically;

“simplex” means a method in which telecommunication between two stations takes place in one direction at a time;

“SNOWTAM” means a special series NOTAM notifying the presence or removal of hazardous conditions due to snow, ice, slush or standing water associated with snow, slush and ice on the movement area, by means of a specific format;

“telecommunication” means any transmission, emission, or reception of signs, signals, writing, images and sounds or intelligence of any nature by wire, radio, optical or other electromagnetic systems;

“teletypewriter tape” means a tape on which signals are recorded in the 5-unit Start-Stop code by completely severed perforations (Chad Type) or by partially severed perforations (Chad less Type) for transmission over teletypewriter circuits;

“torn-tape relay installation” means a teletypewriter installation where messages are received and relayed in teletypewriter tape form and where all operations of relay are performed as the result of operator intervention; and

“tributary station” means an aeronautical fixed station that may route, receive or transmit messages or digital data but which does not relay except for the purpose of serving similar stations connected through it to a communication centre.

### **3. Application**

These Regulations apply to all persons providing communication, navigation or surveillance services within designated air spaces and at aerodromes.

## **PART II—GENERAL REQUIREMENTS**

### **4. Requirements for communication, navigation and surveillance facilities**

The installation, commissioning, operation and maintenance of the communication, navigation and surveillance facilities shall conform to these Regulations.

### **5. Certification**

A person shall not provide communication, navigation and surveillance services or operate a facility to support air traffic services without an air navigation services provider certificate issued in accordance with the Civil Aviation (Certification of Air Navigation Services) Regulations, 2020.

### **6. Application for approval**

A person who wishes to provide communication, navigation and surveillance systems or to operate communication, navigation and surveillance facility in the designated airspace and aerodromes shall apply to the authority for approval.

### **7. Sitting and installation**

(1) The air navigation services provider shall determine the site for installation of a facility based on operational requirements, construction aspects and maintainability.

(2) The facility referred to in sub-regulation (1) shall be installed by personnel who are qualified in air navigation facilities and who have knowledge of the operations, testing and maintenance of the communication, navigation and surveillance facilities.



## **8. Installation, operation and maintenance of communication, navigation and surveillance systems**

The air navigation service provider shall establish procedures to ensure that communication, navigation and surveillance systems-

- (a) are operated, maintained, available and reliable in accordance with the requirements prescribed by the authority;
- (b) are designed to meet the applicable operational specification for that facility;
- (c) are installed and commissioned as prescribed by the authority; and
- (d) conform to the applicable system characteristics and specifications.

## **9. Commissioning of facilities**

(1) The authority shall be involved in the commissioning of communication, navigation and surveillance facilities to confirm that the facilities meet the standard operating parameters and these Regulations before commencement of operations.

(2) The air navigation services provider shall establish procedures to ensure that each new facility is commissioned to meet the specifications for that facility and is in compliance with these Regulations.

(3) The air navigation services provider shall at the time of commissioning a facility referred to in subregulation (1), validate the system performance of every new facility by carrying out the necessary tests.

(4) The procedures referred to in sub-regulation (2) shall include documentation of tests conducted on the facility prior to commissioning, including the tests for the compliance of the facility with the applicable standards and any flight checks required by these Regulations.

## **10. Inspections and audits**

(1) The Authority shall carry out safety inspections and audits on communication, navigation and surveillance facilities, documents and records of the communication, navigation and surveillance facilities to determine compliance with these Regulations.

(2) An inspector designated by the Authority shall have unrestricted access to the communication, navigation and surveillance facilities, records and documents of the facilities approved under these Regulations to determine compliance with these Regulations.

## **11. Availability and reliability**

The air navigation services provider shall provide protected power supply system, battery back-up, reliable connectivity and air conditioning.

## **12. Test equipment**

(1) The air navigation services provider shall provide appropriate tools and test equipment to personnel to maintain the operation of equipment.

(2) The air navigation services provider shall establish a procedure to control, calibrate and maintain the equipment.

(3) The maintenance plan and the operating and maintenance instructions for each facility shall specify the test equipment requirements for all levels of operation and maintenance undertaken.

(4) The air navigation services provider shall use documented procedures established under subregulation (2) to control, calibrate and maintain test equipment.

## **13. Record keeping.**

The air navigation services provider shall establish procedures to identify, collect, index, store, maintain and dispose of records relating to—

- (a) the performance and maintenance history of the facility;
- (b) the establishment of the periodic test programmes for the facility;
- (c) test equipment required for the measurement of critical performance parameters;
- (d) reported or detected facility malfunction;
- (e) internal quality assurance review; and
- (f) the person authorised to place facilities into operational service.

#### **14. Documentation**

The air navigation services provider shall—

- (a) keep copies of relevant equipment manuals, technical standards, practices, instructions, maintenance procedures, site logbooks and any other documentation that are necessary for the provision and operation of the facility;
- (b) record all occurrences and actions relating to operation, maintenance, modification, failure, faults, removal from and restoration to service in the logbooks; and
- (c) establish a procedure for the control of the documentation required under this regulation.

#### **15. Periodic inspection and testing**

(1) The air navigation services provider shall establish a procedure for the periodic inspection and testing of the communication, navigation and surveillance systems to verify that the facility meets the applicable operational requirements and performance specifications for each facility.

(2) Periodic inspection shall include—

- (a) security of the facility and site;
- (b) adherence to the approved maintenance programme;
- (c) upkeep of the equipment, building, site and site services; and
- (d) adequacy of facility records and documentation.

## **16. Flight inspection**

The air navigation services provider shall ensure that the radio navigation aids prescribed under these Regulations are available for use by aircraft engaged in air navigation and are subjected to periodic ground and flight inspection.

## **17. Operation and maintenance plan**

(1) The air navigation services provider shall establish an operation and maintenance plan for the communication, navigation and surveillance facilities, to meet the safety requirements prescribed under these Regulations.

(2) The operation and maintenance plan established under subregulation (1) shall provide for the timely and appropriate detection and warning of system failures and degradations.

## **18. Training requirements for communication, navigation and surveillance personnel**

(1) The air navigation services provider shall ensure that all its personnel possess the skills and competencies required in the provision of the communication navigation and surveillance services.

(2) The air navigation services provider shall—

- (a) develop a training policy and programme for the organisation;
- (b) maintain training records and a training plan for the staff; and
- (c) conduct periodic reviews of the training plan.

## **19. Communication, navigation and surveillance personnel requirements**

(1) The air navigation services provider shall employ sufficient number of competent personnel to perform the installation, operation and maintenance of communication, navigation and surveillance systems in the designated airspace and aerodromes.

(2) The air navigation services provider shall provide in the Manual of Air Navigation Service Operations an analysis of the personnel required to perform the communication navigation and surveillance services for each facility, taking into account the duties and workload required.

(3) A person shall not perform a function related to installation, operation or maintenance of a communication, navigation and a surveillance system unless-

- (a) that person has successfully completed training in the performance of that function;
- (b) the air navigation services provider is satisfied that the technical person is competent in performing that function; and
- (c) that person has been certified in accordance with these Regulations.

## **20. Proficiency certification program**

The Authority shall develop a proficiency certification program of personnel who are engaged in the installation, operation and maintenance of communication, navigation and surveillance systems used in designated airspace and aerodrome.

### **PART III— ADMINISTRATIVE PROVISIONS RELATING TO THE INTERNATIONAL AERONAUTICAL TELECOMMUNICATION SERVICE**

## **21. Division of service**

The International Aeronautical Telecommunication Service shall be divided into the following four parts—

- (a) aeronautical fixed services;
- (b) aeronautical mobile services;
- (c) aeronautical radio navigation services; and
- (d) aeronautical broadcasting services.

## **22. Telecommunication access**

The Authority shall ensure that aeronautical telecommunication stations, including end systems and intermediate systems of the

aeronautical telecommunication network, are protected from unauthorised direct or remote access.

### **23. Hours of service.**

(1) The Authority shall give notice of the normal hours of service of stations and offices of the International Aeronautical Telecommunication Service under its control to the aeronautical telecommunications agencies designated to receive this information of other administrations concerned.

(2) The Authority shall give notice of any change in the normal hours of service to the aeronautical telecommunication agencies designated to receive the information of other administrations concerned, before the change is effected.

(3) The changes referred to in subregulation (2) shall be notified in a NOTAM.

(4) Where a station of the International Aeronautical Telecommunication Service or an aircraft operating agency, requires a change in the hours of service of another station, the change shall be requested as soon as possible after the need for change is known by the station.

(5) The station or aircraft operating agency requesting for a change under subregulation (4) shall be informed of the decision on the request as soon as possible.

### **24. Supervision**

(1) The Minister shall designate an authority responsible for ensuring that the International Aeronautical Telecommunication Service is conducted in accordance with these Regulations.

(2) Occasional infringement of the procedures prescribed by these Regulations shall be dealt with by direct communication, immediately, between the parties concerned either by correspondence or by personal contact, where the infringement is not of a serious nature.

(3) Where the Authority determines that a serious and repeated infringement has occurred at a station, the person in charge of the station shall make available to the authority only representations relating to the infringements.

(4) The authority designated under subregulation (1) shall exchange information relating the performance of systems of communication, radio navigation, operation and maintenance or unusual transmission phenomena.

## **25. Superfluous transmissions**

The Authority shall ensure that there is no wilful transmission of unnecessary or anonymous signals, messages or data by any station in Uganda.

## **26. Interference**

An air navigation service provider shall ensure that all precautions, such as the choice of frequency and of time and the reduction or if possible, the suppression of radiation, are taken to avoid harmful interference during tests and experiments in any station and that any resulting interference is eliminated as soon as possible.

## **PART IV— GENERAL PROCEDURES FOR THE INTERNATIONAL AERONAUTICAL TELECOMMUNICATION SERVICE**

### **27. Extensions of services and closing down of stations**

(1) A station of the International Aeronautical Telecommunication Service shall extend its normal hours of service, as required by the Authority, to provide for traffic necessary for flight operations.

(2) A station shall notify its intention to all other stations with which it is in direct communication to confirm that an extension of service is not required and advise of the time of re-opening, if not within its normal hours of service **before close down**.

(3) A station shall notify its intention of closing down either to the control station, if any or to all stations in the network where it is working regularly in a network on a common circuit.

(4) The station referred to in subregulation (3) shall continue watch for two minutes and may close down, if the station has received no call during this period.

(5) Stations with other than continuous hours of operation, engaged in or expected to become engaged in distress, urgency, unlawful interference or interception traffic, shall extend their normal hours of service to provide the required support to those communications.

## **28. Acceptance of messages**

(1) An air navigation services provider shall accept for transmission only messages coming within the categories specified in regulation 39.

(2) Determining the acceptability of a message shall be the responsibility of the station where the message is filed for transmission.

(3) The air navigation services provider of any station through which a message is relayed shall make representations at a later date to the air navigation services provider in control of the accepting station regarding any message which is considered unacceptable.

(4) Only messages for stations forming part of the Aeronautical Telecommunication Service shall be accepted for transmission, except where special arrangements have been made with the air navigation service provider concerned.

(5) Acceptance of a message intended for two or more addresses, whether at the same station or at different stations, shall be permitted subject to the provisions prescribed in paragraph 1 (2)(c)(iv) of Schedule 3 to these Regulations.

(6) Messages handled for aircraft operating agencies shall be accepted only when handed in to the telecommunication station in the



form specified in these Regulations, by an authorised representative of that agency, or when received from that agency over an authorized circuit.

**29. Transmission and delivery of message**

(1) A message accepted under regulation 28 shall be transmitted, relayed and delivered in accordance with the priority classification and without discrimination or undue delay.

(2) A single office for each aircraft operating agency shall be designated by agreement between the air navigation service provider and the aircraft operating agency concerned for each station of the air navigation service provider from which messages are delivered to one or more aircraft operating agencies.

(3) Stations of the International Aeronautical Telecommunication Service shall be responsible for delivery of messages to an addressee located within the boundaries of the aerodrome served by that station and beyond those boundaries, only to the addressee as may be agreed by special arrangement with the administrations concerned.

(4) The Authority shall prescribe a form of written record or other permanent means of delivering messages.

(5) Messages originated in the aeronautical mobile service by an aircraft in flight and which require transmission over the aeronautical fixed telecommunication network to effect delivery, shall be reprocessed by the aeronautical telecommunication station prior to transmission on the aeronautical fixed telecommunication network.

(6) Messages originated in the aeronautical mobile service by an aircraft in flight and which require transmission over the aeronautical fixed service, other than on an aeronautical fixed telecommunication network circuit, shall be reprocessed by the aeronautical telecommunication station into the message format set out in Schedule 1 to these Regulations, except where, subject to subregulation (3), prior or other arrangements have been made between the aeronautical

telecommunication agency and the aircraft operating agency concerned for predetermined distribution of messages from aircraft.

- (7) Messages without specific address containing—
- (a) meteorological information received from an aircraft in flight, shall be forwarded without delay to the meteorological office associated with the point of reception; and
  - (b) air traffic services information from aircraft in flight shall be forwarded without delay to the air traffic services unit associated with the communication station receiving the message.

### **30. Time systems**

(1) All stations in the aeronautical telecommunication service shall use the universal co-ordinated time system.

(2) The stations referred to in sub-regulation (1) shall designate midnight as 2400 for the end of the day and 0000 for the beginning of the day.

(3) A date-time group shall consist of six figures, the first two figures representing the date of the month and the last four figures representing the hours and minutes in universal co-ordinated time.

### **31. Record of communications**

(1) Every station of the aeronautical telecommunication shall maintain a telecommunication log, except an aircraft station when using radiotelephony in direct communication with an aeronautical station.

(2) Every aeronautical station shall record messages at the time of their receipt, except that, if during an emergency, the continued manual recording results in delays in communication, the recording of messages may be temporarily interrupted and completed at the earliest opportunity.

(3) Where a record is maintained in an aircraft station, either in a radiotelephone log or elsewhere, concerning distress communications, harmful interference or interruption to communications, the record shall be associated with information concerning the time, position and altitude of the aircraft.

(4) In written logs, entries shall be made only by operators on duty, except that other persons having knowledge of facts pertinent to the entries may certify in the log, the accuracy of entries of the operators.

(5) Superfluous marks or notations shall not be made in the log and all entries shall be complete, clear, correct and intelligible.

(6) Any correction in a written log shall be—

- (a) made only by the person making the initial entry;
- (b) accomplished by drawing or typing a single line through the incorrect entry, initialling against the entry, recording the time and date of correction; and
- (c) made on the next line after the last entry.

(7) Written or automatic telecommunication logs shall be retained for a period of at least thirty days and where the logs are pertinent to inquiries or investigations, the logs shall be retained for longer periods until it is evident that they will no longer be required.

(8) The following information shall be entered in every written log—

- (a) the name of the agency operating the station;
- (b) the identification of the station;
- (c) the date;
- (d) the time of opening and closing of the station;

- (e) the signature of each operator, with the time the operator assumes and relinquishes watch;
- (f) the frequencies being guarded and type of watch being maintained on each frequency;
- (g) a record of each communication, test transmission, or attempted communication showing text of communication, time communication completed, station communicated with, and frequency used;
- (h) all distress communications and action;
- (i) a brief description of communication conditions and difficulties, including harmful interference;
- (j) a brief description of interruption to communications due to equipment failure or other trouble, giving the duration of the interruption and action taken; and
- (k) any additional information as may be considered by the operator to be of value as part of the record of the operations of the station.

### **32. Establishment of radio communication**

(1) All stations shall answer calls directed to them by other stations in the aeronautical telecommunication service and shall exchange communications on request.

(2) All stations shall radiate the minimum power necessary to ensure satisfactory service.

### **33. Use of abbreviations and codes**

(1) The International Aeronautical Telecommunication Service shall use abbreviations and codes whenever they are appropriate and codes shall be used to shorten or facilitate communication.

(2) The originator shall, if required by the Aeronautical Telecommunication Station accepting the message for transmission, make available to that station a decode for the abbreviations and codes used where abbreviations and codes other than those approved by the authority are contained in the text of message.

**34. Cancellation of message**

A telecommunication station shall cancel a message where the cancellation is authorised by the message originator.

PART V— AERONAUTICAL FIXED SERVICE (AFS)

**35. Systems and applications used in the Aeronautical Fixed Service**

The Aeronautical Fixed Service shall comprise the following systems and applications in the International Aeronautical Telecommunication Service—

- (a) Air Traffic Services direct speech circuits and networks;
- (b) meteorological operational circuits, networks and broadcast systems;
- (c) the Aeronautical Fixed Telecommunications Network;
- (d) the Air Traffic Services message handling services; and
- (e) the inter-centre communications.

**36. Material permitted in Aeronautical Fixed Services messages**

The material permitted in Aeronautical Fixed Services messages is specified in paragraph 1 of Schedule 1 to these Regulations.

**37. ATS direct speech circuits**

Air Traffic Services direct speech communications shall be those specified in the Civil Aviation (Air Traffic Services) Regulations, 2020.

### **38. Meteorological operational channels and meteorological operational telecommunication networks**

Meteorological operational channel procedures and meteorological operational communication network procedures shall be compatible with the Aeronautical Fixed Telecommunications Network Procedures.

#### *Aeronautical Fixed Telecommunication Network*

### **39. Categories of messages**

Subject to regulations 28 and 29, the following categories of messages shall be handled by the Aeronautical Fixed Telecommunication Network—

- (a) distress messages with priority indicator SS which comprise those messages sent by mobile stations reporting that they are threatened by grave and imminent danger and all other messages relative to immediate assistance required by the mobile station in distress;
- (b) urgency messages with priority indicator DD which comprise messages concerning the safety of a ship, aircraft or other vehicles or of a person on board or within sight;
- (c) flight safety messages with priority indicator FF which comprise—
  - (i) movement and control messages;
  - (ii) messages originated by an aircraft operating agency of immediate concern to aircraft in flight or preparing to depart; or
  - (iii) Meteorological messages restricted to SIGMET information, special air-reports, AIRMET messages, volcanic ash and tropical cyclone advisory information and amended forecasts;
- (d) meteorological messages with priority indicator GG which comprise—

- (i) messages concerning forecasts; or
- (ii) messages concerning observations and reports;
- (e) flight regularity messages with priority indicator GG which comprise—
  - (i) aircraft load messages required for weight and balance computation;
  - (ii) messages concerning changes in aircraft operating schedules;
  - (iii) messages concerning aircraft servicing;
  - (iv) messages concerning changes in collective requirements for passengers, crew and cargo covered by deviation from normal operating schedules;
  - (v) messages concerning non-routine landings;
  - (vi) messages concerning pre-flight arrangements for air navigation services and operational servicing for non-scheduled aircraft operations such as overflight clearance requests;
  - (vii) messages originated by aircraft operating agencies reporting an aircraft arrival or departure; or
  - (viii) messages concerning parts and materials urgently required for the operation of aircraft;
- (f) aeronautical information services messages with priority indicator GG which comprise messages concerning NOTAMs;
- (g) aeronautical administrative messages with priority indicator KK which comprise—

- (i) messages regarding the operation or maintenance of facilities provided for the safety or regularity of aircraft operations;
  - (ii) messages concerning the functioning of aeronautical telecommunication services; or
  - (iii) messages exchanged between civil aviation authorities relating to aeronautical services; and
- (h) service messages with priority indicator as appropriate which comprise messages originated by Aeronautical Fixed Stations to obtain information or verification concerning other messages which appear to have been transmitted incorrectly by the Aeronautical Fixed Service, confirming channel-sequence numbers.

#### **40. Service messages**

(1) Service messages shall be prepared in the format specified in regulation 53.

(2) In applying the provisions of Schedule 3 to these Regulations to service messages addressed to an aeronautical fixed station identified only by a location indicator, the indicator shall be immediately followed by the ICAO three-letter designator YFY, followed by an appropriate 8th letter.

(3) Service messages shall be assigned the appropriate priority indicator.

(4) When service messages refer to messages previously transmitted, the priority indicator assigned shall be that used for the message to which they refer.

(5) Service messages correcting errors in transmission shall be addressed to all the addressees that shall have received the incorrect transmission.



(6) A reply to a service message shall be addressed to the station which originated the initial service message.

(7) The text of all service messages shall be concise.

(8) A service message, other than one acknowledging receipt of SS messages, shall be further identified by the use of the abbreviation “SVC” as the first item in the text.

(9) When a service message refers to a message previously handled, reference to the previous message shall be made by use of the appropriate transmission identification or the filing time and originator indicator groups identifying the reference message.

#### **41. Order of priority**

The order of priority for the transmission of messages in the Aeronautical Fixed Telecommunication Network shall be as follows—

- (a) transmission priority 1 shall comprise of messages with priority indicator SS;
- (b) transmission priority 2 shall comprise of messages with priority indicator DD and FF; and
- (c) transmission priority 3 shall comprise of messages with priority indicator GG and KK.

#### **42. Same priority messages**

Messages that have the same priority indicator shall be transmitted in the order in which they are received for transmission.

#### **43. Routing of messages and supervision of message traffic**

Where an Aeronautical Fixed Telecommunication Network is used, the routing of messages and supervision of message traffic shall be as specified in Schedule 2 to these Regulations.

#### **44. Failure of communications**

Where an Aeronautical Fixed Telecommunication Network is used and there exists a communication failure, the requirements stipulated in paragraph 4 of Schedule 2 to these Regulations shall be used.

#### **45. LongtermretentionofAeronauticalFixedTelecommunication Networks traffic records**

(1) Aeronautical Fixed Telecommunication Network origin stations shall retain, for a period of at least 30 days, all copies of transmitted messages in their entirety.

(2) Aeronautical Fixed Telecommunication Networks destination stations shall retain, for a period of at least 30 days, a record containing the information necessary to identify all messages received and the action taken on the messages.

(3) Aeronautical Fixed Telecommunication Networks communication centres shall retain, for a period of at least 30 days, a record containing the information necessary to identify all messages relayed or retransmitted and the action taken.

#### **46. ShorttermretentionofAeronauticalFixedTelecommunication Networks traffic records**

(1) Aeronautical Fixed Telecommunication Networks communication centres shall retain, for a period of at least one hour, a copy of all messages, in their entirety, retransmitted or relayed by that communication centre, except as provided in subregulation (2).

(2) Where acknowledgement is made between Aeronautical Fixed Telecommunication Network communication centres, a relay centre shall be considered as having no further responsibility for retransmission or repetition of a message for which it has received positive acknowledgement, and the message may be deleted from its records.

**47. Test procedures on Aeronautical Fixed Telecommunication Networks channels**

Test messages transmitted on Aeronautical Fixed Telecommunication Networks channels for the purposes of testing and repairing lines shall comprise the following—

- (a) the start-of-message signal;
- (b) the procedure signal QJH;
- (c) the originator indicator;
- (d) U (5/5) \*(2/10) in IA-5; and
- (e) the end-of-message signal.

**48. Characters of Aeronautical Fixed Telecommunication Networks messages**

Aeronautical Fixed Telecommunication Networks messages entered by the Aeronautical Fixed Telecommunication Networks origin station shall not exceed 2 100 characters in length.

**49. Stripped address**

Aeronautical Fixed Telecommunication Networks communication centre shall omit from the address all the addressee indicators not required when applying the provisions in paragraph 1(2) of Schedule 3 to these Regulations for—

- (a) an onward transmission by the Aeronautical Fixed Telecommunication Networks communication centre to which the message is transmitted;
- (b) local delivery to the addressee by the Aeronautical Fixed Telecommunication Networks destination station; or
- (c) an onward transmission or local delivery by the aggregate of stations on a multi-point circuit.

**50. Message format — International Alphabet No. 5 (IA-5)**

All messages of International Telegraph Alphabet No. 5 shall comply with the message format specified in Schedule 3 to these Regulations.

**51. Action taken on mutilated messages in International Telegraph Alphabet No.5 detected in computerized AFTN relay stations**

Any action taken on mutilated messages in International Telegraph Alphabet No.5 detected in computerized Aeronautical Fixed Telecommunication Network relay stations shall be as specified in paragraph 2 of Schedule 3 to these Regulations.

**52. Transfer of Aeronautical Fixed Telecommunication Networks messages over code and byte independent circuits and networks**

When Aeronautical Fixed Telecommunication Network messages are transferred across code and byte independent circuits and networks of the AFS, the following shall apply—

- (a) the message shall start with an alignment function followed by the address, except as provided in paragraph (c), the headline of the message shall be omitted;
- (b) the message shall end with a complete ending;
- (c) entry centres shall be permitted to insert additional data preceding the first alignment function and following the ending of the message for the purposes of technical supervision; and
- (d) where paragraph (c) is applied, the data added shall not include either carriage return or line feed characters or any of the combinations listed in paragraph (3) of Schedule 1 to these Regulations.

**53. Air Traffic Services Message Handling Services (ATS-MHS)**

The Air Traffic Services Message Handling Service application shall be used to exchange air traffic services messages between users over the Aeronautical Telecommunication Network internet in accordance with Schedule 4 to these Regulations.

**54. Inter-Centre Communications**

The Inter-Centre Communications applications set shall be used to exchange Air Traffic Services messages between air traffic service users over the Aeronautical Telecommunication Network internet.

PART VI—AERONAUTICAL MOBILE SERVICE — VOICE COMMUNICATIONS

**55. General procedures for aeronautical mobile service - voice communications**

(1) The highest standard of discipline shall be observed at all times in all aeronautical mobile service voice communications.

(2) The standardised phraseology of the authority shall be used in all situations for which it has been specified and where the standardised phraseology cannot serve any intended transmission, plain language shall be used.

(3) Transmission of messages, other than those specified in regulation 56 on aeronautical mobile frequencies when the aeronautical fixed services are able to serve the intended purpose, shall be avoided.

(4) In all communications, the consequences of human performance which affect the accurate reception and comprehension of messages shall be taken into consideration.

(5) Where it is necessary for an aircraft station to send signals for testing or adjustment which may interfere with the working of a neighbouring aeronautical station, the consent of the station shall be obtained before the signals are sent and any such transmissions shall be kept to a minimum.

(6) Where it is necessary for a station in the aeronautical mobile service to make test signals, either for the adjustment of a transmitter before making a call or for the adjustment of a receiver, the signals shall not continue for more than 10 seconds and shall be composed of spoken numerals in radiotelephony, followed by the radio call sign of the station transmitting the test signals and any such transmissions shall be kept to a minimum.

(7) The responsibility of establishing communication shall rest with the station having traffic to transmit except as otherwise provided in these Regulations.

(8) After a call is made to an aeronautical station, a period of at least 10 seconds shall elapse before a second call is made.

(9) Where an aeronautical station is called simultaneously by several aircraft stations, the aeronautical station shall decide the order in which the aircraft shall communicate.

(10) In communications between aircraft stations, the duration of communication shall be controlled by the aircraft station, which is receiving the communication, subject to the intervention of an aeronautical station.

(11) Where the communications in subregulation (10) take place on an air traffic service frequency, prior permission of the aeronautical station shall be obtained but the requests for permission shall not be required for brief exchanges.

## **56. Categories of messages**

The categories of messages handled by the aeronautical mobile service and the order of priority in the establishment of communications and the transmission of messages shall be in accordance with table 5.1 prescribed in Schedule 5 to these Regulations.

## **57. Communication related to direction finding**

Communications relating to direction finding shall be handled in accordance with these Regulations.

## **58. Composition of flight safety messages**

Flight safety messages shall comprise—

- (a) movement and control messages;
- (b) messages originated by an aircraft operating agency or by an aircraft, of immediate concern to an aircraft in flight;
- (c) meteorological advice of immediate concern to an aircraft in flight or about to depart; or
- (d) other messages concerning aircraft inflight or about to depart.

## **59. Composition of meteorological messages**

Meteorological messages shall comprise of meteorological information to or from aircraft, other than messages specified in regulation 61.

## **60. Composition of flight regularity messages**

Flight regularity messages shall comprise—

- (a) messages regarding the operation or maintenance of facilities essential for the safety or regularity of aircraft operation;
- (b) messages concerning the servicing of aircraft;
- (c) instructions to aircraft operating agency representatives concerning changes in requirements for passengers and crew caused by unavoidable deviations from normal operating schedules;
- (d) messages concerning non-routine landings to be made by an aircraft;
- (e) messages concerning aircraft parts and materials urgently required; and
- (f) messages concerning changes in aircraft operating schedules.

### **61. Handling of flight regularity messages**

Air Traffic Services units using direct pilot controller communication channels shall only be required to handle flight regularity messages where the messages can be achieved without interference with their primary role and where no other channels are available for the handling of the messages.

### **62. Composition of inter-pilot air-to-air communication**

(1) Inter-pilot air-to-air communication shall comprise messages relating to any matter affecting safety and regularity of flights.

(2) The category and priority of the messages under subregulation (1) shall be determined on the basis of their content in accordance with regulation 59.

### **63. Cancellation of messages**

(1) The station transmitting the message shall instruct the receiving station to disregard an incomplete transmission if a message has not been completely transmitted when instructions to cancel are received and the instructions shall be effected in radiotelephony by use of an appropriate phrase.

(2) Where a completed message transmission is being held pending correction and the receiving station is to be informed to take no forwarding action, or where delivery or onward relay cannot be accomplished, the transmission shall be cancelled and this shall be effected in radiotelephony by the use of an appropriate phrase.

(3) The station cancelling a transmission shall be responsible for any further action required.

### **64. Radiotelephony procedures**

The radiotelephony procedures for aeronautical mobile service - voice communication shall be as specified in Schedule 6 to these Regulations.



**65. Distress and urgency radiotelephony communication procedures**

Distress and urgency radiotelephony communication procedures for aeronautical mobile service - voice communication shall be as specified in Schedule 7 to these Regulations.

**66. Communications relating to acts of unlawful interference**

The station addressed by an aircraft subjected to an act of unlawful interference or the first station acknowledging a call from such an aircraft, shall render all possible assistance, including notification of appropriate air traffic service units and any other station, agency or person in a position to facilitate the flight.

PART VII— AERONAUTICAL RADIO NAVIGATION SERVICE

**67. Composition of aeronautical radio navigation service**

(1) The aeronautical radio navigation service shall comprise all types and systems of radio navigation aids in the international aeronautical service.

(2) An aeronautical radio navigation aid which is not in continuous operation shall, where practicable, be put into operation on receipt of a request from an aircraft, any controlling authority on the ground or an authorised representative of an aircraft operating agency.

(3) The request referred to in subregulation (2) shall be made to the aeronautical station concerned on the air-ground frequency normally in use.

(4) The local aeronautical information service unit shall be furnished, without delay with essential information about changes in the operational status of non-visual aids as required for pre-flight briefing and dissemination in accordance with the Civil Aviation (Aeronautical Information Service) Regulations, 2020.

**68. Aeronautical radio navigation service direction finding**

(1) A direction-finding station working alone shall give the following, as requested—

- (a) true bearing of the aircraft, using the appropriate phrase;
- (b) true heading to be steered by the aircraft, with no wind, to head for the direction-finding station using the appropriate phrase;
- (c) magnetic bearing of the aircraft, using the appropriate phrase; and
- (d) magnetic heading to be steered by the aircraft with no wind to make for the station, using the appropriate phrase.

(2) When direction-finding stations work as a network to determine the position of an aircraft, the bearings taken by each station shall be sent immediately to the station controlling the direction-finding network to enable the position of the aircraft to be determined.

(3) The station controlling the network specified in subregulation (2) shall, on request, give the aircraft its position—

- (a) in relation to a point of reference or in latitude and longitude, using the appropriate phrase;
- (b) the true bearing of the aircraft in relation to the direction-finding station or other specified point, using the appropriate phrase and its distance from the direction finding station or point, using the appropriate phrase; or
- (c) the magnetic heading to steer with no wind, to make for the direction-finding station or other specified point and its distance from the direction-finding station or point, using the appropriate phrases.

(4) Aircraft stations shall make requests for bearings, courses or positions, to the aeronautical station responsible or to the station controlling the direction-finding network.

(5) The aircraft station specified in subregulation (4) shall call the aeronautical station or the direction-finding control station on the listening frequency and specify the type of service that is desired using the appropriate phrase.

(6) The direction-finding station originally called by the aircraft station shall where necessary—

- (a) request transmission for direction-finding service; and
- (b) indicate the frequency to be used by the aircraft station, the number of times the transmission shall be repeated, the duration of the transmission required or any special transmission requirement, as soon as the direction-finding station or group of stations are ready.

(7) An aircraft station which requests a bearing shall end the transmission by repeating its call sign in radiotelephony.

(8) An aircraft shall give a longer transmission for two periods of approximately ten seconds or alternatively provide such other signals as may be requested by the direction-finding station if the transmission specified in subregulation (7) is too short for the direction-finding station to obtain a bearing.

(9) The direction-finding station shall request the aircraft station to repeat a transmission if not satisfied with its observation.

(10) The direction-finding station shall advise the aircraft station when a heading or bearing has been requested in the following form—

- (a) the appropriate phrase;
- (b) bearing or heading in degrees in relation to the direction-finding station, sent as three figures;
- (c) class of bearing; and
- (d) time of observation, if necessary.

(11) The direction finding control station, after plotting all simultaneous observations, shall determine the observed position of the aircraft and shall advise the aircraft station in the following form when a position has been requested –

- (a) the appropriate phrase;
- (b) the position;
- (c) the class of position; and
- (d) the time of observation.

(12) The aircraft station shall repeat back the message for confirmation or correction as soon as the aircraft station has received the bearing, heading or position from the direction finder.

(13) When positions are given by bearing or heading and distance from a known point other than the station making the report, the reference point shall be an aerodrome, prominent town or geographic feature.

(14) Subject to subregulation (13), an aerodrome shall be given in preference to other places.

(15) When a large city or town is used as a reference place as specified in subregulation (13), the bearing or heading and the distance given shall be measured from its centre.

(16) When the position is expressed in latitude and longitude, groups of figures for degrees and minutes shall—

- (a) be used followed by letter N or S for latitude and the letter E or W for longitude, respectively; or
- (b) use the words NORTH, SOUTH, EAST or WEST in radiotelephony.

(17) The direction-finding station estimates of the accuracy of observations, bearings and positions shall be classified as follows—

- (a) Bearings—
  - (i) Class A — accurate within plus or minus 2 degrees;
  - (ii) Class B — accurate within plus or minus 5 degrees;
  - (iii) Class C — accurate within plus or minus 10 degrees; and
  - (iv) Class D — accuracy less than Class C;
  
- (b) Positions—
  - (i) Class A — accurate within 9.3 km (5 NM);
  - (ii) Class B — accurate within 37 km (20 NM);
  - (iii) Class C — accurate within 92 km (50 NM); and
  - (iv) Class D — accuracy less than Class C.

(18) Direction-finding stations shall have authority to refuse to give bearings, heading or positions when conditions are unsatisfactory or when bearings do not fall within the calibrated limits of the station and shall state the reason at the time of refusal.

## PART VIII—AERONAUTICAL BROADCASTING SERVICE

### **69. Broadcast material**

The originator shall prepare a text of broadcast material in the form desired for transmission.

### **70. Frequencies and schedules**

(1) A broadcast station shall make broadcasts on specified frequencies at specified times and the schedules and frequencies of all broadcasts shall be publicised in the appropriate documents.

(2) Where the broadcast station makes a change in frequencies or times the change shall—

- (a) be publicised by NOTAM at least two weeks in advance of the change; and
- (b) be announced on all regular broadcasts for 48 hours preceding the change and shall be transmitted once at the beginning and once at the end of each broadcast, where practicable.

(3) Scheduled broadcasts other than sequential collective type broadcasts, shall be started at the scheduled time by the general call.

(4) A short notice shall be transmitted at the scheduled time, advising recipients to “stand by” and stating the approximate number of minutes of delay if a broadcast is to be delayed.

(5) The broadcast shall not be started until the end of the standby period as defined in subregulation (4).

(6) Transmission shall be terminated by each station promptly at the end of the allotted time period whether or not transmission of all material has been completed, where broadcasts are conducted on a time allotment basis.

(7) In sequential collective type broadcasts, each station shall be ready to commence its broadcasts at the designated time and if, for any reason, a station does not commence its broadcast at the designated time, the station immediately following in sequence shall wait and commence its broadcast at its own designated time.

## **71. Radiotelephone broadcast procedures**

The aeronautical broadcasting service shall comply with radiotelephone broadcast procedures specified in the Schedule 8 to these Regulations.

## **72. Interruption of service**

(1) A broadcast shall be made by another station, if possible, in the event of interruption of service at the station responsible for broadcast, until normal service is resumed.

(2) Where the broadcast in subregulation (1) is not possible, and the broadcast is of the type intended for interception by fixed stations, the stations which are required to copy the broadcasts shall continue to listen on the specified frequencies until normal service is resumed.

PART IX—AERONAUTICAL MOBILE SERVICE — DATA LINK  
COMMUNICATIONS

**73. Composition of data link messages**

The composition of data link messages for aeronautical mobile service – data link communication shall be as specified in the paragraph 2 of Schedule 9 to these Regulations.

**74. Display of data link messages**

(1) Ground and airborne systems shall allow for messages to be appropriately displayed, printed when required and stored in a manner that permits timely and convenient retrieval.

(2) The English language shall be displayed as a minimum whenever textual presentation is required.

**75. Controller pilot data link communication procedures.**

The controller pilot data link communication procedures in aeronautical mobile service – data link communication shall be as specified in paragraph 3 of Schedule 9 to these Regulations.

PART X—EXEMPTIONS

**76. Requirements for application for exemption**

(1) A person may apply to the Authority for exemption from any provision of these Regulations.

(2) Except for an emergency, a person requiring exemptions from the requirement of any provision of these Regulations shall make

an application to the Authority, at least sixty days prior to the proposed effective date of the exemption, giving the following information—

- (a) the applicant's name and contact address, including electronic mail and fax, if any;
- (b) telephone number;
- (c) a citation of the specific requirement from which the applicant seeks exemption;
- (d) justification for the exemption;
- (e) a description of the type of operations to be conducted under the proposed exemption;
- (f) the proposed duration of the exemption;
- (g) an explanation of how the exemption would be in the public interest;
- (h) a detailed description of the alternative means by which the applicant will ensure a level of safety equivalent to that established by the regulation in question;
- (i) a safety risk assessment carried out in respect of the exemption applied for;
- (j) if the applicant handles international operations and seeks to operate under the proposed exemption, an indication whether the exemption would contravene any provision of the standards and recommended practices of the International Civil Aviation Organization (ICAO); and
- (k) any other information that the Authority may require.

(3) Where the applicant seeks emergency processing of an application for exemption, the application shall contain supporting facts and reasons for not filing the application within the time specified in sub-regulation (2) and satisfactory reasons for deeming the application an emergency.



(4) The Authority may, in writing, refuse an application made under sub-regulation (3),

where, in the opinion of the Authority, the reasons given for emergency processing are not satisfactory.

(5) The application for exemption shall be accompanied by a fee prescribed by the Authority.

## **77. Review and publication**

(1) The Authority shall review the application for an exemption made under regulation 76 for accuracy and compliance and if the application is satisfactory, the Authority shall publish a detailed summary of the application for comments, within a prescribed time, in either—

- (a) the Uganda Gazette;
- (b) the aeronautical information circular; or
- (c) a daily newspaper with nationwide circulation.

(2) Where the application requirements have not been fully complied with, the authority shall request the applicant, in writing, to comply prior to publication or making a decision under subregulation (3).

(3) Where the request is for emergency relief, the Authority shall publish the decision as soon as possible after processing the application.

## **78. Evaluation of the request**

(1) Where the application requirements have been satisfied, the Authority shall conduct an evaluation of the request which shall include—

- (a) a determination of whether an exemption would be in the public interest;

- (b) a determination, after a technical evaluation of whether the applicant's proposal would provide a level of safety equivalent to that established by the regulation, although where the authority decides that a technical evaluation of the request would impose a significant burden on the authority's technical resources, the authority may deny the exemption on that basis;
- (c) a determination of whether a grant of the exemption would contravene these Regulations; and
- (d) a recommendation, based on the preceding elements, of whether the request should be granted or denied, and of any conditions or limitations that should be part of the exemption

(2) The Authority shall notify the applicant in writing, of the decision to grant or deny the request and shall publish a detailed summary of its evaluation and decision.

(3) The summary referred to in subregulation (2) shall specify the duration of the exemption and any conditions or limitations of the exemption.

(4) The Authority shall publish the summary in an aeronautical information circular if the exemption affects a significant population of the aviation community of Uganda.

## PART XI— GENERAL PROVISIONS

### **79. Drug and alcohol testing and reporting**

(1) A person who performs any function prescribed by these Regulations directly or by contract under the provisions of these Regulations may be tested for drug or alcohol usage.

(2) A person who—

- (a) refuses to submit to a test to indicate the percentage by weight of alcohol in the blood; or

- (b) refuses to submit to a test to indicate the presence of narcotic drugs, marijuana, or depressant or stimulant drugs or substances in the body, when requested by a law enforcement officer or the authority, or refuses to furnish or to Authorise the release of the test results requested by the Authority shall—
  - (i) not be issued any licence, certificate, rating, qualification, or authorisation issued under these Regulations for a period of up to one year from the date of that refusal; or
  - (ii) have their licence, certificate, rating, qualification, or authorisation issued under these Regulations suspended or revoked.

(3) A person convicted for the violation of any law relating to the growing, processing, manufacture, sale, disposition, possession, transportation, or importation of narcotic drugs, marijuana, or depressant or stimulant drugs or substances, shall-

- (a) not be issued any licence, certificate, rating, qualification, or authorisation issued under these Regulations for a period of up to one year after the date of conviction; or
- (b) have their licence, certificate, rating, qualification, or authorisation issued under these Regulations suspended or revoked.

## **80. Change of name**

(1) An air navigation services provider holding a certificate issued under these Regulations may apply to the Authority for—

- (a) replacement of the certificate, if the certificate is lost or destroyed;
- (b) change of name on the certificate; or
- (c) an endorsement on the certificate.

(2) The holder of a certificate shall submit to the Authority—

- (a) a copy of the original, in case of loss; and
- (b) a court order or other legal document verifying the change of name.

(3) The authority shall return to the holder of a certificate, with the appropriate changes applied for and, if any, the original certificate referred to in subregulation (2), but where necessary, retain copies of the certificate.

### **81. Change of address**

(1) A holder of an air navigation services provider certificate issued under these Regulations shall notify the Authority of any change in the physical and mailing address of the holder within fourteen days of the change.

(2) A person who does not notify the Authority of the change in the physical and mailing address within fourteen days shall not exercise the privileges of the certificate.

### **82. Replacement of documents**

A person may apply to the Authority, in the prescribed form, for replacement of any document issued under these Regulations if the documents are lost or destroyed.

### **83. Use and retention of documents and records**

(1) A person shall not—

- (a) use any certificate or exemption issued or required by or under these Regulations which is forged, altered, cancelled, or suspended, or to which he is not entitled;
- (b) forge or alter any certificate or exemption issued or required by or under these Regulations;
- (c) lend any certificate or exemption issued or required by or under these Regulations to any other person;

- (d) make any false representation for the purpose of procuring for himself or any other person, the grant, issue, renewal or variation of any such certificate or exemption; or
- (e) mutilate, alter, render illegible or destroy any records, or any entry made therein, required by or under these Regulations to be maintained, or knowingly make, or procure or assist in the making of, any false entry in any such record, or willfully omit to make a material entry in such record.

(2) All records required to be maintained by or under these Regulations shall be recorded in a permanent and indelible material.

(3) A person shall not issue any certificate or exemption under these Regulations unless he is authorised to do so by the Authority.

(4) A person shall not issue any certificate referred to in subregulation (3) unless he or she has satisfied himself or herself that all statements in the certificate are correct and that the applicant is qualified to hold that certificate.

#### **84. Reports of violation**

(1) A person who knows of a violation of these Regulations shall report the violation to the Authority.

(2) The Authority may determine the nature and type of investigation or enforcement action to be taken in respect of a violation reported under subregulation (1).

#### **85. Failure to comply with direction**

A person who fails to comply with any direction given to him or her by the Authority or by any authorised person under any provision of these Regulations shall be deemed, for the purposes of these Regulations, to have contravened that provision.

## **86. Aeronautical fees**

(1) The Authority shall, by notice in writing, specify the fees to be charged in connection with the issue, renewal or variation of any certificate, test, inspection or investigation required by, or for the purpose of these Regulations or any orders, notices or proclamations made under these Regulations.

(2) Where an application is made in connection with which any fee is chargeable in accordance with subregulation (1), the applicant shall pay the prescribed fee before the application is accepted.

(3) Where, after payment is made in accordance with subregulation (1), the application is withdrawn by the applicant or otherwise ceases to have effect or is refused, the Authority shall not refund the payment made.

## **PART XII— OFFENCES AND PENALTIES**

### **87. Offences and penalties**

(1) A person who contravenes any provision of these Regulations, an order, a notice or proclamation made under these Regulations is liable, on conviction, to a fine not exceeding one million shillings or imprisonment no exceeding six months or both; and in the case of a continuing contravention, each day of the contravention shall constitute a separate offence.

(2) Notwithstanding subregulation (1), a person who contravenes any provision of these Regulations may have his or her certificate or exemption revoked, cancelled or suspended.

(3) Where it is proved that an act or omission of a person, which would otherwise have been a contravention by that person of a provision of these Regulations, an order, notice or proclamation made under these Regulations was due to any cause not avoidable by the exercise of reasonable care by that person, the act or omission shall be deemed not to be a contravention by that person of that provision.

## **88. Appeals**

A person aggrieved by any order made under these Regulations may, within twenty-one days of the making of the order, appeal against to a court of competent jurisdiction.

## SCHEDULE 1

*Regulations 29 (6), 36 and 52 (d)*

### MATERIAL PERMITTED IN AFS MESSAGES

#### 1. Material Permitted in AFS Messages

*Note.— The provisions contained in this Schedule do not apply to ATS voice communications.*

(1) The following characters are allowed in text messages:

*Letters:* ABCDEFGHIJKLMNOPQRSTUVWXYZ

*Figures:* 1 2 3 4 5 6 7 8 9 0

*Other signs:* - (hyphen)

? (question mark)  
: (colon)  
( (open bracket)  
) (close bracket)  
. (full stop, period, or decimal point)  
, (comma)  
' (apostrophe)  
= (double hyphen or equal sign)  
/ (oblique)  
+ (plus sign)

Characters other than those listed above shall not be used in messages unless absolutely necessary for understanding of the text. When used, they shall be spelled out in full.

(2) For the exchange of messages over the teletypewriter circuits, the following characters of International Alphabet No. 5 (IA-5) shall be permitted:

— characters 0/1 to 0/3, 0/7 — in the priority alarm, 0/10, 0/11 — in



- the ending sequence, 0/13;
- characters 2/0, 2/7 to 2/9, 2/11 to 2/15;
- characters 3/0 to 3/10, 3/13, 3/15;
- characters 4/1 to 4/15;
- characters 5/0 to 5/10; and
- character 7/15.

*Note.— The foregoing provisions are not intended to prevent the use of the full IA-5 after agreement between the administrations concerned.*

(3) Roman numerals shall not be employed. If the originator of a message wishes the addressee to be informed that roman figures are intended, the Arabic figure or figures shall be written and preceded by the word ROMAN.

(4) Messages using IA-5 shall not contain:

- (i) character 0/1 (SOH) other than the one in the heading;
- (ii) character 0/2 (STX) other than the one in the origin line;
- (iii) character 0/3 (ETX) other than the one in the ending;
- (iv) any uninterrupted sequence of characters 5/10, 4/3, 5/10, 4/3 in this order (ZCZC);
- (v) any uninterrupted sequence of characters 2/11, 3/10, 2/11, 3/10 in this order (+:+:);
- (vi) any uninterrupted sequence of four times character 4/14 (NNNN); and
- (vii) any uninterrupted sequence of four times character 2/12 (,,,,).

(5) The text of messages shall be drafted in plain language or in abbreviations and codes as prescribed in regulation 33. The originator shall avoid the use of plain language when reduction in the length of the text by appropriate abbreviations and codes is practicable. Words and phrases which are not essential, such as expressions of politeness, shall not be used.

(6) If the originator of a message wishes alignment functions [ $\leq$ ] to be transmitted at specific places in the text part of such message, the sequence [ $\leq$ ] shall be written on each of those places.

## SCHEDULE 2

*Regulations 43 and 44*

### MESSAGE ROUTING

#### 1. Routing of Messages

(1) All communications shall be routed by the most expeditious route available to effect delivery to the addressee.

(2) Predetermined diversion routing arrangements shall be made, when necessary, to expedite the movement of communication traffic. Each communication centre shall have the appropriate diversion routing lists, agreed to by the administration(s) operating the communication centres affected and shall use them when necessary.

(3) For purposes of subparagraph (2), diversion routing shall be initiated:

- (a) in a fully automatic communication centre:
  - (i) immediately after detection of the circuit outage, when the traffic is to be diverted via a fully automatic communication centre;
  - (ii) within a 10-minute period after detection of the circuit outage, when the traffic is to be diverted via a non-fully automatic communication centre; and
- (b) in a non-fully automatic communication centre within a 10-minute period after detection of the circuit outage.

(4) As soon as it is apparent that it will be impossible to dispose of traffic over the Aeronautical Fixed Service within a reasonable period, and when the traffic is held at the station where it was filed, the originator shall be consulted regarding further action to be taken, unless:

- (a) otherwise agreed between the station concerned and the originator; or
- (b) arrangements exist whereby delayed traffic is automatically diverted to commercial telecommunication services without reference to the originator.

*Note.— The expression “reasonable period” means a period of time such that it seems probable that the traffic will not be delivered to the addressee within any fixed transit period applicable to the category of traffic concerned, or, alternatively, any predetermined period agreed between originators and the telecommunication station concerned.*

## **2. Supervision of message traffic.**

(1) Continuity of message traffic. The receiving station shall check the transmission identification of incoming transmissions to ensure the correct sequence of channel sequence numbers of all messages received over that channel.

- (a) When the receiving station detects that one or more channel-sequence numbers are missing, it shall send a complete service message to the previous station rejecting receipt of any message that may have been transmitted with such missing number(s). The text of this service message shall comprise the signal QTA, the procedure signal MIS followed by one or more missing transmission.

*Note.— The following examples illustrate application of the above-mentioned procedure. In example 2) the hyphen (-) separator is understood to mean “through” in plain language.*

(1) *when one channel-sequence number is missing:*

SVC→QTA→MIS→ABC↑123↓<≡

(2) *when several channel-sequence numbers are missing:*

SVC→QTA→MIS→ABC↑123-126↓<≡

- (b) When the provisions of subparagraph (a) are applied, the station notified of the missing message(s) condition by the service message shall reassume its responsibility for transmission of the message (or messages) that it had previously transmitted with the transmission identification concerned, and shall retransmit that message (or those messages) with a new (correct in sequence) transmission identification. The receiving station shall synchronize such that the next expected channel-sequence number is the last received channel-sequence number plus one.

- (c) When the receiving station detects that a message has a channel sequence number less than that expected, it shall advise the previous station using a service message with a text comprising:
  - (i) the abbreviation SVC;
  - (ii) the procedure signal LR followed by the transmission identification of the received message;
  - (iii) the procedure signal EXP followed by the transmission identification expected; and
  - (iv) the end-of-text signal.

*Note.*— The following example illustrates application of the above-mentioned procedure:

SVC→LR→ABC↑123→↓EXP→ABC↑135↓<≡

- (d) When the provisions of subparagraph (c) are applied, the station receiving the out-of sequence message shall synchronize such that the next expected channel-sequence number is the last received channel-sequence number plus one. The previous station shall check its outgoing channel-sequence numbers and, if necessary, correct the sequence.

### **3. Misrouted messages**

*Note.*— *A message is considered to have been misrouted if it contains no relaying instructions, expressed or implied, on which the receiving station can take action.*

- (1) When the receiving station detects that a message has been misrouted to it, it shall either:
  - (a) send a service message to the previous station rejecting receipt of the misrouted message; or
  - (b) itself assume responsibility for transmission of the message to all addressee indicators.

*Note.— The procedure of paragraph (2) may be preferred at stations using fully automatic relay methods or a semi-automatic relay technique without continuous tape.*

(2) When the provisions of subparagraph (1) are applied, the text of the service message shall comprise the abbreviation SVC, the signal QTA, the procedure signal MSR followed by the transmission identification and of the misrouted message and the end-of-text signal.

*Note.— The following example illustrates application of the above-mentioned procedure:*

SVC→QTA→MSR→ABC↑123↓<≡

(3) When, as a result of the provisions of subparagraph (2), a sending station is notified of the misrouted message condition by service message, it shall reassume its responsibility for the message and shall retransmit as necessary on the correct outgoing channel or channels.

(4) When a circuit becomes interrupted and alternative facilities exist, the last channel-sequence numbers sent and received shall be exchanged between the stations concerned. Such exchanges shall take the form of complete service messages with the text comprising the abbreviation SVC, the procedure signals LR and LS followed by the transmission identifications of the relevant messages and the end-of-text signal.

*Note.— The following example illustrates application of the above-mentioned procedure:*

SVC→LR→ABC↑123↓→LS→BAC↑321↓<≡

#### **4. Failure of communications**

(1) Where communication on any fixed service circuit fails, the station concerned shall attempt to re-establish contact as soon as possible.

(2) If contact cannot be re-established within a reasonable period on the normal fixed service circuit, an appropriate alternative circuit shall be used and attempts shall be made to establish communication on any other authorized fixed service circuit available.

(3) If the attempts in subparagraphs (1) and (2) fail, use of any available air-ground frequency shall be permitted only as an exceptional and temporary measure when no interference to aircraft in flight is ensured.

(4) Where a radio circuit fails due to signal fadeout or adverse propagation conditions, a receiving watch shall be maintained on the regular fixed service frequency normally in use. In order to re-establish contact on this frequency as soon as possible there shall be transmitted:

- (a) the procedure signal DE;
- (b) the identification of the transmitting station transmitted three times;
- (c) the alignment function [ $\lll$ ];
- (d) the letters RY repeated without separation for three lines of page copy;
- (e) the alignment function [ $\lll$ ]; and
- (f) end-of-message signal (NNNN). The foregoing sequence shall be repeated as required.

(5) A station experiencing a circuit or equipment failure shall promptly notify other stations with which it is in direct communication if the failure will affect traffic routing by those stations. Restoration to normal shall also be notified to the same stations.

(6) Where diverted traffic will not be accepted automatically or where a predetermined diversion routing has not been agreed, a temporary diversion routing shall be established by the exchange of service messages. The text of such service messages shall comprise:

- (a) the abbreviation SVC;
- (b) the procedure signal QSP;
- (c) if required, the procedure signal RQ, NO or CNL to request, refuse or cancel a diversion;
- (d) identification of the routing areas, States, territories, locations, or stations for which the diversion applies; and
- (e) the end-of-text signal.

*Note.— The following examples illustrate application of the above-mentioned procedures:*

a) *to request a diversion:*

SVC→QSP→RQ→C→K→BG→BI↓<≡

b) *to accept a diversion:*

SVC→QSP→C→K→BG→BI↓<≡

c) *to refuse a diversion:*

SVC→QSP→NO→C→K→BG→BI↓<≡

d) *to cancel a diversion:*

SVC→QSP→CNL→C→K→BG→BI↓<≡



## SCHEDULE 3

*Regulations 28 (5), 40 (2), 49,50, 51 and 53.*

### 1. MESSAGE FORMAT — INTERNATIONAL ALPHABET NO. 5 (IA-5)-

When it has been agreed between the administrations concerned to use International Alphabet No. 5 (IA-5) the format described in this Schedule shall be used. All messages, other than those prescribed in regulation 47 shall comprise the components specified in subparagraphs (1) to (6) inclusive.

*Note 1.— An illustration of the IA-5 message format is given in Figure 3-1.*

*Note 2.— In the subsequent standards relative to message format the following symbols have been used in making reference to the functions assigned to certain signals in IA-5. Symbol Signification*

< CARRIAGE RETURN (character position 0/13)

≡ LINE FEED (character position 0/10)

→ SPACE (character position 2/0).

(1) The heading shall comprise—

- (a) start-of-heading (SOH) character 0/1;
- (b) transmission identification comprising—

- (i) circuit or link identification; and
- (ii) channel-sequence number;

(c) additional service information (if necessary) comprising:

- (i) one SPACE; and
- (ii) no more than 10 characters.

(d) on point-to-point circuits or links, the identification shall consist of three letters selected and assigned by the transmitting station; the first letter identifying the transmitting, the second letter the receiving end of the circuit, and the third letter the channel. Where only one channel exists, the letter A shall be assigned.

Where more than one channel between stations is provided, the channels shall be identified as A, B, C, etc., in respective order. On multipoint channels, the identification shall consist of three letters selected and assigned by the circuit control or master station.

- (e) except as provided in sub-paragraph (5) three-digit channel-sequence numbers from 001 to 000 (representing 1 000) shall be assigned sequentially by telecommunication stations to all messages transmitted directly from one station to another. A separate series of these numbers shall be assigned for each channel and a new series shall be started daily at 0000 hours.
- (f) the expansion of the channel-sequence number to preclude duplication of the same numbers during the 24-hour period shall be permitted subject to agreement between the Authorities responsible for the operation of the circuit.
- (g) the transmission identification shall be sent over the circuit in the following sequence-
  - (i) transmitting-terminal letter;
  - (ii) receiving-terminal letter;
  - (iii) channel-identification letter;
  - (iv) channel-sequence number.
- (g) Additional service information shall be permitted to be inserted following the transmission identification subject to agreement between the Authorities responsible for the operation of the circuit. Such additional service information shall be preceded by a SPACE (→) followed by not more than 10 characters inserted into the heading of message immediately following the last digit of the channel-sequence number and shall not contain any alignment functions. When no such additional service information is added the information in subparagraph (2)(f) shall be followed immediately by that of subparagraphs (3) and (4).

(2) The address shall comprise:

(a) alignment function [ $\leq$ ];

(b) priority indicator;

(i) the priority indicator shall consist of the appropriate two-letter group assigned by the originator in accordance with the following:

<b>Priority indicator</b>	<b>Message category</b>
SS	distress messages
DD	urgency messages
FF	flight safety messages
GG	meteorological messages
GG	flight regularity messages
GG	aeronautical information services messages
KK	aeronautical administrative messages, as appropriate service messages

(ii) The order of priority shall be the same as specified in regulation 41.

(c) addressee indicator(s).

(i) An addressee indicator, which shall be immediately preceded by a SPACE, except when it is the first address indicator of the second or third line of addresses, shall comprise:

(aa) the four-letter location indicator of the place of destination;

(ab) the three-letter designator identifying the organization/ function (aeronautical authority, service or aircraft operating agency) addressed;

(ac) an additional letter, which shall represent a department, division or process within the organization/function addressed. The letter X shall

be used to complete the address when explicit identification is not required.

- (ii) Where a message is to be addressed to an organization that has not been allocated an ICAO three-letter designator of the type prescribed in subparagraph (3)(c)
  - (i) the location indicator of the place of destination shall be followed by the ICAO three-letter designator YYY (or the ICAO three-letter designator YXY in the case of a military service or organization). The name of the addressee organization shall then be included in the first item in the text of the message. The eighth position letter following the ICAO three-letter designator YYY or YXY shall be the filler letter X.
- (iii) Where a message is to be addressed to an aircraft in flight and, therefore, requires handling over the Aeronautical Fixed Telecommunication Network for part of its routing before retransmission over the Aeronautical Mobile Service, the location indicator of the aeronautical station which is to relay the message to the aircraft shall be followed by the ICAO three-letter designator ZZZ. The identification of the aircraft shall then be included in the first item of the text of the message. The eighth position letter following the ICAO three-letter designator ZZZ shall be the filler letter X.
- (iv) The complete address shall be restricted to three lines of page-printing copy, and, except as provided in paragraph 2, a separate addressee indicator shall be used for each addressee whether at the same or different locations.
- (v) The completion of the addressee indicator group(s) in the address of a message shall be immediately followed by the alignment function.

- (vi) Where messages are offered in page-copy form for transmission and contain more addressee indicators than can be accommodated on three lines of a page copy, such messages shall be converted, before transmission, into two or more messages, each of which shall conform with the provisions of subparagraph (3)(a)(v). During such conversion, the addressee indicators shall, in so far as practicable, be positioned in the sequence which will ensure that the minimum number of retransmissions will be required at subsequent communication centres.

Message part		Component of the message part	Elements of the component	Teletypewriter character
H	HEADING LINE	Start-of-Heading Character	One Character (0/1)	SOH
		Transmission Identification	a) Transmitting-terminal letter b) Receiving-terminal letter c) Channel-identification letter d) Channel-sequence number	-
		If necessary, additional Service Indication	e) One SPACE f) No more than the remainder of the line	→
E	ADDRESS	Alignment function	One CARRIAGE RETURN, one LINE FEED	<CR>
		Priority Indicator	The relevant 2-letter group	-
		Addressee Indicator(s)	One SPACE and an 8-letter group  <i>Example:</i> <i>EGLLRZX→EGLLYKX→EGLLACAD</i>	
		Alignment Function(s)	One CARRIAGE RETURN, one LINE FEED	<CR>
D	ORIGIN	Filing time	6 digit date-time group specifying when the message was filed for transmission	.....
		Originator indicator	g) One SPACE h) 8-letter group identifying the message originator	→.....
I	ORIGIN	Priority Alarm(used only in teletypewriter operation for distress messages)	Five characters  (0/1)(BEL)	
N		Optional Heading Information	i) One SPACE j) Additional data not to exceed the remainder of the line	
G		Alignment function	One CARRIAGE RETURN, one LINE FEED	<CR>
	Start of text character	One character (0/2)	STX	

TEXT	Beginning of Text	<p>Specific identification of Addressees (<i>if necessary</i>) with each followed by one CARRIAGE RETURN, one LINE FEED (<i>if necessary</i>)</p> <p>The English word FROM (<i>if necessary</i>)</p> <p>Specific identification of Originator (<i>if necessary</i>)</p> <p>The English word STOP followed by one CARRIAGE RETURN, one LINE FEED (<i>if necessary</i>) and/or Originator's reference (<i>if used</i>)</p>	
	Message Text	Message Text with one CARRIAGE RETURN, one LINE FEED at the end of each printed line of the Text except for the last one	
	Confirmation ( <i>if necessary</i> )	<p>k) One CARRIAGE RETURN, one LINE FEED</p> <p>l) The abbreviation CFM followed by the portion of the TEXT being confirmed.</p>	
	Correction ( <i>if necessary</i> )	<p>m) One CARRIAGE RETURN, one LINE FEED</p> <p>n) The abbreviation COR followed by the correction of an error made in the preceding TEXT</p>	
ENDING	Alignment function	One CARRIAGE RETURN, one LINE FEED	<CR>
	Page-feed Sequence	One character (0/11)	VT
	End-of Text Character	One character (0/3)	ETX

Figure 1-1. Message format International Alphabet No. 5 (IA-5)

- (3) The origin shall comprise:
- (a) filing time which shall comprise the 6-digit date-time group indicating the date and time of filing the message for transmission;
  - (b) originator indicator which shall be immediately preceded by a SPACE and comprise:
    - (i) the four-letter location indicator of the place at which the message is originated;
    - (ii) the three-letter designator identifying the organization/function (aeronautical authority, service or aircraft operating agency) which originated the message;
    - (iii) an additional letter to represent a department, division or process within the organization or function of the originator and letter X to complete the address when explicit identification is not required;
  - (c) where a message is originated by an organization that has not been allocated an ICAO three-letter designator of the type prescribed in paragraph 2 (1)(6) of Schedule 2, the location indicator of the place at which the message is originated shall be followed immediately by the ICAO three-letter designator YYY followed by the filler letter X (or the ICAO three-letter designator YXY followed by the filler letter X in the case of a military service or organization). The name of the organization (or military service) shall then be included in the first item in the text of the message.
  - (d) Messages relayed over the Aeronautical Fixed Telecommunication Network that have been originated in other networks shall use a valid Aeronautical Fixed Telecommunication Network originator indicator that has been agreed for use by the relay or gateway function linking the Aeronautical Fixed Telecommunication Network with the external network.



- (e) Where a message originated by an aircraft in flight requires handling on the Aeronautical Fixed Telecommunication Network for part of its routing before delivery, the originator indicator shall comprise the location indicator of the aeronautical station responsible for transferring the message to the Aeronautical Fixed Telecommunication Network, followed immediately by the ICAO three-letter designator *ZZZ* followed by the filler letter *X*. The identification of the aircraft shall then be included in the first item in the text of the message.
- (f) When necessary, priority alarm shall be used only for distress messages and consist of five successive *BEL* (0/7) characters;

Note.— Use of the priority alarm will actuate a bell (attention) signal at the receiving teletypewriter station, other than at those fully automatic stations which may provide a similar alarm on receipt of priority indicator *SS*, thereby alerting supervisory personnel at relay centres and operators at tributary stations, so that immediate attention may be given to the message.

- (g) optional heading information that shall be included in the origin line provided a total of 69 characters is not exceeded and subject to agreement between the Administrations concerned. The presence of the optional data field shall be indicated by one occurrence of the *SPACE* character immediately preceding optional data alignment function;
- (h) start-of-text character, character 0/2 (*STX*); and
- (i) When additional addressing information in a message needs to be exchanged between source and destination addresses, it shall be conveyed in the optional data field (*ODF*), using the following specific format:
  - (i) characters one and full stop (*1.*) to indicate the parameter code for the additional address function;
  - (ii) three modifier characters, followed by an equal sign (*=*) and the assigned 8-character ICAO address; and

- (iii) the character hyphen (-) to terminate the additional address parameter field.
- (iv) When a separate address for service messages or inquiries is different from the originator indicator, the modifier SVC shall be used.
- (v) The origin line shall be concluded by an alignment function [ $\ll$ ] and the start-of-text (STX) (0/2) character.

**(4) Text**

- (a) The text of messages shall be drafted in accordance with subparagraph (6)(h) and shall consist of all data between STX and ETX.
- (b) When an originator's reference is used, it shall appear at the beginning of the text, except as provided in subparagraphs (f) and (g).
- (c) When the ICAO three-letter designators YXY, YYY or ZZZ comprise the second element of the addressee indicator and it, therefore, becomes necessary to identify in the text the specific addressee of the message, such identification group shall precede the originator's reference (if used) and become the first item of the text.
- (d) When the ICAO three-letter designators YXY, YYY or ZZZ comprise the second element of the originator indicator and it thus becomes necessary to identify in the text the name of the organization (or military service) or the aircraft which originated the message, such identification shall be inserted in the first item of the text of the message.
- (e) When applying the provisions of subparagraphs (f) and (g) to messages where the ICAO three-letter designator(s) YXY, YYY, ZZZ refer to two or more different organizations (or military services), the sequence of further identification in the text shall correspond to the complete sequence used in the address and

originator indicator of the message. In such instance, each addressee identification shall be followed immediately by an alignment function. The name of the (YXY, YYY or ZZZ) organization originating the message shall then be preceded with "FROM". "STOP" followed by an alignment function shall then be included in the text at the end of this identification and preceding the remainder of text.

- (f) An alignment function shall be transmitted at the end of each printed line of the text. When it is desired to confirm a portion of the text of a message in teletypewriter operation, such confirmation shall be separated from the last text group by an alignment function [ $\leq$ ] and shall be indicated by the abbreviation CFM followed by the portion being confirmed.
- (g) Where messages are prepared off-line, e.g. by preparation of a paper tape, errors in the text shall be corrected by backspacing and replacing the character in error by character DEL (7/15).
- (h) Corrections to textual errors made in on-line operations shall be corrected by inserting  $\rightarrow E \rightarrow E \rightarrow E \rightarrow$  following the error, then retyping the last correct word (or group).
- (i) When it is not discovered until later in the origination process that an error has been made in the text, the correction shall be separated from the last text group, or confirmation, if any, by an alignment function [ $\leq$ ]. This shall be followed by the abbreviation COR and the correction.
- (j) Stations shall make all indicated corrections on the page-copy prior to local delivery or a transfer to a manually operated circuit.
- (k) When messages are transmitted only on low-speed circuits, the text of messages entered by the Aeronautical Fixed Telecommunication Network origin station shall not exceed 1 800 characters in length. Aeronautical Fixed Telecommunication network messages exceeding 1 800 characters shall be entered

by the Aeronautical Fixed Telecommunication Network origin station in the form of separate messages

*Note 1. — Low-speed circuits operate at 300 bits per second or less.*

*Note 2. — The character count includes all printing and non-printing characters in the text from, but not including, the start-of-text signal to, but not including, the first alignment function of the ending.*

- (i) The transmission on medium- or high-speed circuits of Aeronautical Fixed Telecommunication Network messages with text exceeding 1 800 characters that have not been entered by the Aeronautical Fixed Telecommunication Network origin station in the form of separate messages shall be subject to agreement between the Administrations concerned and not diminish the performance characteristics of the network or link.

*Note 1. — Medium-speed circuits operate at speeds in the range between 300 and 3 000 bits per second. High-speed circuits operate at speeds in excess of 3 000 bits per second.*

*Note 2.— The character count includes all printing and non-printing characters in the text from, but not including,*

**(5) Ending**

- (a) The ending of a message shall comprise the following in the order stated:
  - (i) an alignment [ $\lll$ ] function following the last line of text;
  - (ii) page-feed character, character 0/11 (VT);
  - (iii) end-of-text character 0/3 (ETX).
- (b) Station terminal equipment (page printers) on the International Alphabet Number 5 (IA-5) shall be provided with a capability to generate sufficient line feed functions for local station use upon the reception of a VERTICAL TAB character (0/11).

- (c) When the message does not transit ITA-2 portions of the Aeronautical Fixed Telecommunication Network, or where Administrations have made provisions to add automatically the second carriage return before transmission to an ITA-2 circuit, one carriage return in the alignment function and end-of-line function shall be permitted subject to agreement between the Administrations concerned.
- (d) Messages entered by the Aeronautical Fixed Telecommunication Network origin station shall not exceed 2 100 characters in length, when transmitted only on low-speed circuits.

*Note 1.— Low-speed circuits operate at 300 bits per second or less.*

*Note 2.— The character count includes all printing and nonprinting characters in the message from and including the start-of-heading character (SOH) to and including the end-of-text character.*

- (e) The transmission on medium- or high-speed circuits of Aeronautical Fixed Telecommunication Network messages exceeding 2 100 characters that have not been entered by the Aeronautical Fixed Telecommunication Network origin station in the form of separate messages shall be subject to agreement between the Administrations concerned and not diminish the performance characteristics of the network or link.

*Note 1.— Medium-speed circuits operate at speeds in the range between 300 and 3 000 bits per second. High-speed circuits operate at speeds in excess of 3 000 bits per second.*

*Note 2.— The character count includes all printing and non-printing characters in the message from and including the start-of-heading character (SOH) to and including the end-of-text character.*

- (f) Except as provided in subparagraphs (6)(h) to (6)(k), the procedures of regulations 49 to 51 shall be used for messages using IA-5 code.

- (g) The transmission of message texts that do not require conversion to the IA-2 code and format and with message lines containing more than 69 printable and non-printable characters shall be subject to agreement between the Administrations concerned
- (h) Channel-check transmissions- In the case where continuous control of channel condition is not provided the following periodic transmissions shall be sent on teletypewriter circuits:
  - (i) heading line; S
  - (ii) alignment function T; X
  - (iii) the procedure signal CH; E
  - (iv) alignment function T. X
- (i) A receiving station shall check the transmission identification of the incoming transmission specified in sub-paragraph (h) to ensure its correct sequence in respect of all messages received over that incoming channel.

*Note.— Application of this procedure provides some measure of assurance that channel continuity is maintained; however, a continuously controlled channel is much more preferable in that data integrity can also be improved.*

- (j) *Where* a circuit is unoccupied and uncontrolled, the transmission identified in subparagraph (6)(h) shall be sent at H + 00, H + 20, H + 40.
- (k) The receipt of distress messages (priority indicator SS) shall be individually acknowledged by the Aeronautical Fixed Telecommunication Network destination station by sending a service message to the Aeronautical Fixed Telecommunication Network origin station. Such acknowledgement of receipt shall take the format of a complete message addressed to the Aeronautical Fixed Telecommunication Network origin station, shall be assigned priority indicator SS and the associated priority alarm, and shall have a text comprising:

- (i) the procedure signal R;
- (ii) the origin line without priority alarm, or optional heading information of the message being acknowledged;
- (iii) the ending.

*Note.— The following example illustrates the application of the subparagraph (6)(k) procedures:*

Heading

<≡ SS → LECBZRZX <≡

121322 → EGLLYFYX (Priority Alarm) <≡ S

TR → 121319 → LECBZRZX <≡ X

Ending.

## **2. Action taken on mutilated messages in IA-5 detected in computerized Aeronautical Fixed Telecommunication Network relay stations**

(1) On channels employing continuous control the mutilation detection and subsequent recovery shall be a function of the link control procedures and shall not require the subsequent sending of service or CHECK TEXT NEW ENDING ADDED messages.

(2) On channels not employing continuous control the relay station shall employ the following procedures:

- (a) If, during the reception of a message a relay station detects that the message has been mutilated at some point ahead of the end-of-text character, it shall;
  - (i) cancel the onward routing responsibility for the message; and
  - (ii) send a service message to the transmitting station requesting a retransmission.

*Note.— The following example illustrates a typical text of a service message in which the foregoing procedure has been applied in respect of a mutilated message:*

SVC→QTA→RPT→ABC 123

- (b) When the provisions of sub-paragraph (2)(a) are applied, the station receiving the service message shall reassume responsibility for the referenced message with a new (i.e. correct in sequence) transmission identification. If that station is not in possession of an unmutated copy of the original message, it shall send a message to the originator as identified by the originator indicator in the origin of the mutilated message, requesting repetition of the incorrectly received message.

*Note.— The following example illustrates a typical text of a service message in which the foregoing procedure has been applied in respect of a mutilated message having as its origin*

*“141335 CYULACAX”:*

SVC→QTA→RPT→141335→CYULACAX (ending)

(3) If, after transmission of the text material of a message, a relay station can detect that there is no complete end-of-text character, but has no practical means of discovering whether the irregularity has affected only the end-of-text character, or whether it has also caused part of the original text to have been lost, it shall insert into the channel the following:

- (a) <≡CHECK≡TEXT≡ NEW→ENDING→ADDED
- (b) its own station identification;
- (c) (ending).



**3. Transfer of Aeronautical Fixed Telecommunication Network messages over code and byte independent circuits and networks.**

(1) When Aeronautical Fixed Telecommunication Network messages are transferred across code and byte independent circuits and networks of the AFS, the following shall apply.

- (a) Except as provided in subparagraph (1)(c) the heading line of the message shall be omitted. The message shall start with an alignment function followed by the address.
- (b) The message shall end with a complete ending.
- (c) For the purposes of technical supervision, entry centres shall be permitted to insert additional data preceding the first alignment function and/or following the ending of the message.
- (d) When the provisions of subparagraph (1)(c) are applied, the data added shall not include either carriage return or line feed characters or any of the combinations listed in paragraph 1 (3) of Schedule 1 to these regulations.

## SCHEDULE 4

Regulation 53

### 1. ATS MESSAGE HANDLING SERVICES (ATSMHS AND INTER-CENTRE COMMUNICATIONS (ICC))

#### (1) ATS MESSAGE HANDLING SERVICES (ATSMHS)

The ATS message service of the ATS (air traffic services) message handling service (ATSMHS) application shall be used to exchange ATS messages between users over the aeronautical telecommunication network (ATN) internet.

*Note: Connections may be established over the internet communications service between any pair constituted of these ATN end systems as shown in Table 4-1.*

**Table 4-1: Communications between ATN end systems implementing  
ATS message handling services**

ATN End System 1	ATN End System 2
ATS Message Server	ATS Message Server
ATS Message Server	Aeronautical Fixed Telecommunication Network / AMHS Gateway
ATS Message Server	ATS Message User Agent
Aeronautical Fixed Telecommunication Network /AMHS Gateway	Aeronautical Fixed Telecommunication Network / AMHS Gateway

#### (2) Inter-Centre Communications (ICC)

The inter-centre communications (ICC) applications set shall be used to exchange ATS messages between air traffic service users over the ATN internet.

*Note 1.— The ICC applications set enables the exchange of information in support of the following operational services:*

- (a) flight notification;*
- (b) flight coordination;*
- (c) transfer of control and communications;*
- (d) flight planning;*
- (e) airspace management; and*
- (f) air traffic flow management.*

*Note 2.— The first of the applications developed for the ICC set is the ATS interfacility data communication (AIDC).*

*Note 3.— The AIDC application exchanges information between ATS units (ATSUs) for support of critical air traffic control (ATC) functions, such as notification of flights approaching a flight information region (FIR) boundary, coordination of boundary conditions and transfer of control and communications authority.*

*Note 4.— The AIDC application is strictly an ATC application for exchanging tactical control information between ATS units. It does not support the exchange of information with other offices or facilities.*

*Note 5.— The AIDC application supports the following operational services:*

- (a) flight notification;*
- (b) flight coordination;*
- (c) transfer of executive control;*
- (d) transfer of communications; and*
- (e) transfer of general information (flight-related data or free text messages, i.e. unstructured).*

## SCHEDULE 5

*Regulation 56*

### AERONAUTICAL MOBILE SERVICE — VOICE COMMUNICATIONS

#### 1. Categories of Messages in Aeronautical Mobile Service — Voice Communications

The categories of messages handled by the aeronautical mobile service and the order of priority in the establishment of communications and the transmission of messages shall be in accordance with the following table.

*Table 5-1: Categories of Messages*

	<b>Message category and order of priority</b>	<b>Radio telephony signal</b>
a)	Distress call, distress messages and distress traffic	MAYDAY
b)	Urgency messages, including messages preceded by the medical transports signals	PAN, PAN or PAN, PAN MEDICAL
c)	Communications relating to direction finding	-
d)	Flight safety messages	-
e)	Meteorological messages	-
f)	Flight regulatory messages	-

## SCHEDULE 6

*Regulations 64*

### RADIO TELEPHONY PROCEDURES

#### 1. General

(1) When a controller or pilot communicates via voice, the response shall be via voice. Except when a controller or pilot communicates via controller-pilot data link communications, the response shall be via controller-pilot data link communications.

#### 2. Language to be used

(1) The air-ground radiotelephony communications shall be conducted in the language normally used by the station on the ground or in the English language.

(2) The English language shall be available, on request from any aircraft station, at all stations on the ground serving designated airports and routes used by international air services.

(3) The languages available at a given station on the ground shall form part of the Aeronautical Information Publications and other published aeronautical information concerning such facilities.

(4) When proper names, service abbreviations and words of which the spelling is doubtful are spelled out in radiotelephony the alphabet in Figure 6-1 shall be used.

**Figure 6-1: illustration of service abbreviations and words.**

		Approximate pronunciation	
Letter	Word	International phonetic convention	Latin alphabet representation
A	Alfa	‘ælfɑ	<u>AL</u> FAH
B	Bravo	‘brɑ:’vɔ	<u>BRAH</u> VOH
C	Charlie	‘tʃɑ:li or ‘ʃɑ:li	<u>CHAR</u> LEE OR <u>SHAR</u> LEE
D	Delta	‘delta	<u>DELL</u> TAH
E	Echo	‘eko	<u>ECK</u> OH
F	Foxtrot	‘fɔkstrɒt	<u>FOKS</u> TROT

G	Golf	gɒlf	GOLF
H	Hotel	ho:'tel	HO TELL
I	India	indi'ɑ	IN DEE AH
J	Juliett	'dʒu:li'et	JEW LEE ETT
K	Kilo	'ki:lo	KEY LOH
L	Lima	'li:ma	LEE MAH
M	Mike	maik	MIKE
N	November	no'vembə	NO VEM BER
O	Oscar	'ɔska	OSS CAH
P	Papa	pə'pɑ	PAH PAH
Q	Quebec	ke'bek	KEH BECK
R	Romeo	'ro:mi'ɔ	ROW ME OH
S	Sierra	si'era	SEE AIR RAH
T	Tango	'tæŋɡo	TANG GO
U	Uniform	'ju:nifɔ:m 'u:nifɔ:m	or YOU NEE FORM OR OO NEE FORM
V	Victor	'vikta	VIK TAH
W	Whiskey	'wiski	WISS KEY
X	X-ray	'eks'rei	ECKS RAY
Y	Yankee	'jæŋki	YANG KEY
Z	Zulu	'zu:lu:	ZOO LOO

### 3. Transmission of numbers

- (1) All transmission of numbers, except as prescribed in sub-paragraphs (2) to (6) shall be transmitted by pronouncing each digit separately.

*The following examples illustrate the application of this procedure*

**Figure 6-2: Illustration of transmission of numbers except as prescribed in subparagraph (7) to (11)**

Aircraft Call Signs	Transmitted As
CCA 238	Air China two three eight
OAL 242	Olympic two four two
Headings	Transmitted As
100 degrees	heading one zero zero
080 degrees	heading zero eight zero
Wind Direction And Speed	Transmitted As

200 degrees 70 knots	wind one six zero degrees one
160 degrees 18 knots	wind one six zero degrees one gusting 30 knots eight knots gusting three zero knots
<b>Runway</b>	<b>Transmitted As</b>
27	runway two seven
30	runway three zero

(2) Flight levels shall be transmitted by pronouncing each digit separately except for the case of flight levels in whole hundreds, which shall be transmitted by pronouncing the digit of the whole hundred followed by the word HUNDRED.

**Figure 6-3. Example of Flight Level Transmission**

<b>Flight Levels</b>	<b>Transmitted as</b>
FL180	flight level <b>one eight zero</b>
FL 200	flight level <b>two hundred</b>

(3) The altimeter setting shall be transmitted by pronouncing each digit separately except for the case of a setting of 1 000 hPa which shall be transmitted as ONE THOUSAND.

**Figure 6-4 Example of Altimeter setting Transmission**

<i>altimeter setting</i>	<i>transmitted as</i>
1009	QNH <b>one zero zero nine</b>
1000	QNH <b>one thousand</b>
993	QNH <b>nine nine three</b>

(4) All numbers used in the transmission of transponder codes shall be transmitted by pronouncing each digit separately except that, when the transponder codes contain whole thousands only, the information shall be transmitted by pronouncing the digit in the number of thousands followed by the word THOUSAND.

**Figure 6-5; Example of transmission of numbers of transponder code**

<i>transponder codes</i>	<i>transmitted as</i>
2400	squawk <b>two four zero zero</b>
1000	squawk <b>one thousand</b>
2000	squawk <b>two thousand</b>

(5) All numbers used in the transmission of altitude, cloud height, visibility and runway visual range (RVR) information, which contain whole hundreds and whole thousands, shall be transmitted by pronouncing each digit in the number of hundreds or thousands followed by the word HUNDRED or THOUSAND as appropriate. Combinations of thousands and whole hundreds shall be transmitted by pronouncing each digit in the number of thousands followed by the word THOUSAND followed by the number of hundreds followed by the word HUNDRED.

**Figure 6-6: Example of transmission of numbers of altitude, cloud height, visibility and RVR.**

<i>altitude</i>	<i>transmitted as</i>
800	<b>eight hundred</b>
3400	<b>three thousand four hundred</b>
12000	<b>one two thousand</b>
<i>cloud height</i>	<i>transmitted as</i>
2200	<b>two thousand two hundred</b>
4300	<b>four thousand three hundred</b>
<i>visibility</i>	<i>transmitted as</i>
1000	visibility <b>one thousand</b>
700	visibility <b>seven hundred</b>
<i>runway visual range</i>	<i>transmitted as</i>
600	RVR <b>six hundred</b>
1700	RVR <b>one thousand seven hundred</b>

(6) When providing information regarding relative bearing to an object or to conflicting traffic in terms of the 12-hour clock, the information shall be given pronouncing the double digits as TEN, ELEVEN, or TWELVE [O’CLOCK].



(7) Numbers containing a decimal point shall be transmitted as prescribed in sub-paragraph (1) with the decimal point in appropriate sequence being indicated by the word DECIMAL.

*Note 1.— The following examples illustrate the application of this procedure:*

<i>Number</i>	<i>Transmitted as</i>
100.3	ONE ZERO ZERO DECIMAL THREE,
38143.9	THREE EIGHT ONE FOUR THREE DECIMAL NINE

(8) When transmitting time, only the minutes of the hour shall normally be required. Each digit shall be pronounced separately. However, the hour shall be included when any possibility of confusion is likely to result.

<i>Time</i>	<i>Statement</i>
0920 (9:20 A.M.)	TOO ZE-RO <i>or</i> ZE-RO NIN-er TOO ZE-RO
1643 (4:43 P.M.)	FOW-er TREE <i>or</i> WUN SIX FOW-er TREE

**4. Verification and Pronunciation of Numbers**

(1) When it is desired to verify the accurate reception of numbers the person transmitting the message shall request the person receiving the message to read back the numbers.

(2) When the language used for communication is English, numbers shall be transmitted using the following pronunciation:

**Figure 6-7 Illustration of communication of numbers in English**

Number or numeral element	Pronunciation
0	ZE-RO
1	WUN
2	TOO
3	TREE
4	FOW-er
5	FIFE
6	SIX
7	SEV-EN
8	AIT

9	NIN-er
10	DAY-SEE-MAL
Hundred	HUN -dred
Thousand	TOU-SAND

*Note.— The syllables printed in capital letters in the above list are to be stressed; for example, the two syllables in ZE-RO are given equal emphasis, whereas the first syllable of FOW-er is given primary emphasis.*

## **5. Transmission techniques**

(1) Each written message shall be read prior to commencement of transmission in order to eliminate unnecessary delays in communications.

(2) Transmissions shall be conducted concisely in a normal conversational tone.

(3) Speech transmitting technique shall be such that the highest possible intelligibility is incorporated in each transmission. Fulfilment of this aim requires that air crew and ground personnel shall:

- (a) enunciate each word clearly and distinctly;
- (b) maintain an even rate of speech not exceeding 100 words per minute. When a message is transmitted to an aircraft and its contents need to be recorded the speaking rate shall be at a slower rate to allow for the writing process. A slight pause preceding and following numerals makes them easier to understand;
- (c) maintain the speaking volume at a constant level;
- (d) be familiar with the microphone operating techniques particularly in relation to the maintenance of a constant distance from the microphone if a modulator with a constant level is not used; and
- (e) suspend speech temporarily if it becomes necessary to turn the head away from the microphone.

(4) Speech transmitting technique shall be adapted to the prevailing communications conditions.

(5) Messages accepted for transmission shall be transmitted in plain language or ICAO phraseologies without altering the sense of the message in any way. Approved ICAO abbreviations contained in the text of the message to be transmitted to aircraft shall normally be converted into the unabbreviated words or phrases which these abbreviations represent in the language used, except for those which, owing to frequent and common practice, are generally understood by aeronautical personnel.

(6) To expedite communication, the use of phonetic spelling shall be dispensed with, if there is no risk of this affecting correct reception and intelligibility of the message.

(7) The transmission of long messages shall be interrupted momentarily from time to time to permit the transmitting operator to confirm that the frequency in use is clear and, if necessary, to permit the receiving operator to request repetition of parts not received.

(8) The following words and phrases shall be used in radiotelephony communications as appropriate and shall have the meaning ascribed hereunder:

<i>Phrase</i>	<i>Meaning</i>
ACKNOWLEDGE	“Let me know that you have received and understood this message.”
AFFIRM	“Yes.”
APPROVED	“Permission for proposed action granted.”
BREAK	“I hereby indicate the separation between portions of the message.”

*(To be used where there is no clear distinction between the text and other portions of the message.)*

BREAK BREAK	“I hereby indicate the separation between messages transmitted to different aircraft in a very busy environment.”
CANCEL	“Annul the previously transmitted clearance.”
CHECK	“Examine a system or procedure.”

*(Not to be used in any other context. No answer is normally expected.)*

CLEARED	“Authorized to proceed under the conditions specified.”
CONFIRM	“I request verification of: (clearance, instruction, action, information).”
CONTACT	“Establish communications with...”
CORRECT	“True” or “Accurate”.
CORRECTION	“An error has been made in this transmission (or message indicated). The correct version is...”
DISREGARD	“Ignore.”
HOW DO YOU READ	“What is the readability of my trans- mission?”
I SAY AGAIN	“I repeat for clarity or emphasis.”
MAINTAIN	“Continue in accordance with the condition(s) specified” or in its literal sense, e.g. “Maintain VFR”.
MONITOR	“Listen out on (frequency).”
NEGATIVE	“No” or “Permission not granted” or “That is not correct” or “Not capable”.
OVER	“My transmission is ended, and I expect a response from you.”

Note.— Not normally used in VHF or satellite voice communications.

OUT	“This exchange of transmissions is ended and no response is expected.”
-----	--

*Note.— Not normally used in VHF or satellite voice communications.*

READ BACK	“Repeat all, or the specified part, of this message back to me exactly as received.”
RECLEARED	“A change has been made to your last clearance and this new clearance supersedes your previous clearance or part thereof.”
REPORT	“Pass me the following information...”

REQUEST                    “I should like to know...” or “I wish to obtain...”  
ROGER                     “I have received all of your last transmission.”

*Note.— Under no circumstances to be used in reply to a question requiring “READ BACK” or a direct answer in the affirmative (AFFIRM) or negative (NEGATIVE).*

SAY AGAIN                “Repeat all, or the following part, of your last transmission.”  
SPEAK SLOWER         “Reduce your rate of speech.”

*Note.— For normal rate of speech.*

STANDBY                 “Wait and I will call you.”

*Note.— The caller would normally re-establish contact if the delay is lengthy. STANDBY is not an approval or denial.*

UNABLE                 “I cannot comply with your request, instruction, or clearance.”

*Note.— UNABLE is normally followed by a reason.*

WILCO                    (Abbreviation for “will comply”.)  
                              “I understand your message and will comply with it.”

WORDS TWICE            a) As a request: “Communication is difficult. Please send every word, or group of words, twice.”  
b) As information:     “Since communication is difficult, every word, or group of words, in this message will be sent twice.”

## **6. Composition of Messages**

(1) Messages handled entirely by the aeronautical mobile service shall comprise the following parts in the order stated:

- (a) call indicating the addressee and the originator; and
- (b) text.

*Note.— The following examples illustrate the application of this procedure:*

(call) NEW YORK RADIO SWISSAIR ONE ONE ZERO  
(text) REQUEST SELCAL CHECK *or*  
(call) SWISSAIR ONE ONE ZERO NEW YORK RADIO  
(text) CONTACT SAN JUAN ON FIVE SIX

(2) Messages requiring handling by the AERONAUTICAL FIXED TELECOMMUNICATION NETWORK for part of their routing and similarly messages which are not handled in accordance with predetermined distribution arrangements shall be composed as follows:

(3) When originated in an aircraft:

- (a) call;
- (b) the word FOR;
- (c) the name of the organization addressed;
- (d) the name of the station of destination; and
- (e) the text.

(4) The text shall be as short as practicable to convey the necessary information; full use shall be made of ICAO phraseologies.

*Note.— The following example illustrates the application of this procedure:*  
(call)

BOSTON RADIO SWISSAIR ONE TWO EIGHT (*address*) FOR SWISSAIR  
BOSTON (*text*) NUMBER ONE ENGINE CHANGE REQUIRED

(5) When addressed to an aircraft. When a message is retransmitted by an aeronautical station to an aircraft in flight, the heading and address of the AERONAUTICAL FIXED TELECOMMUNICATION NETWORK message format shall be omitted during the retransmission on the aeronautical mobile service.

- (a) When the provisions of sub-paragraph 28 are applied, the aeronautical mobile service message transmission shall comprise:

- (i) the text [incorporating any corrections (COR) contained in the AERONAUTICAL FIXED TELECOMMUNICATION NETWORK message];
  - (ii) the word FROM;
  - (iii) the name of the originating organization and its location (taken from the origin section of the AERONAUTICAL FIXED TELECOMMUNICATION NETWORK message).
- (b) When the text of a message to be transmitted by an aeronautical station to an aircraft in flight contains approved ICAO abbreviations, these abbreviations shall normally be converted during the transmission of the message into the unabbreviated words or phrases which the abbreviations represent in the language used, except for those which, owing to frequent or common practice, are generally understood by aeronautical personnel.

## 7. Radio telephony call signs for aeronautical stations

(1) Aeronautical stations in the aeronautical mobile service shall be identified by:

- (a) the name of the location; and
- (b) the unit or service available.

(2) The unit or service shall be identified in accordance with the table below except that the name of the location or the unit/service may be omitted provided satisfactory communication has been established.

<b>Unit/ service available</b>	<b>Call Sign suffix</b>
area control centre	CONTROL
approach control	APPROACH
approach control radar arrivals	ARRIVAL
approach control radar departures	DEPARTURE
aerodrome control	TOWER
surface movement control	GROUND
radar (in general)	RADAR

precision approach radar	PRECISION
direction finding station	HOMER
flight information service	INFORMATION
clearance delivery	DELIVERY
apron control	APRON
company dispatch	DISPATCH
aeronautical station	RADIO

**8. Radiotelephony call signs for aircraft**

(1) An aircraft radiotelephony call sign shall be one of the following types:

- (a) Type a) — the characters corresponding to the registration marking of the aircraft; or
- (b) Type b) — the telephony designator of the aircraft operating agency, followed by the last four characters of the registration marking of the aircraft;
- (c) Type c) — the telephony designator of the aircraft operating agency, followed by the flight identification.

(2) The aircraft radiotelephony call signs shown in sub-paragraph (31), with the exception of Type c), may be abbreviated in the circumstances prescribed in sub-paragraph (42). Abbreviated call signs shall be in the following form:

- (a) Type a) — the first character of the registration and at least the last two characters of the call sign;
- (b) Type b) — the telephony designator of the aircraft operating agency, followed by at least the last two characters of the call sign;
- (c) Type c) — no abbreviated form.



Table 5-1: Examples of full call signs and abbreviated call signs

		<i>Type a)</i>	<i>Type b)</i>	<i>Type c)</i>	
Full call sign	N 57826	*CESSNA FABCD	*CITATION FABCD	VARIG PVMA	SCANDINAVIAN 937
	N26 or N826	CESSNA CD or CESSNA BCD	CITATION CD or CITATION BCD	VARIG MA or VARIG VMA	(no abbreviated form)

Note.— Either the name of the aircraft manufacturer or of the aircraft model may be used in place of the first character in Type a).

## 9. Radio telephony Procedures

(1) An aircraft shall not change the type of its radiotelephony call sign during flight, except temporarily on the instruction of an air traffic control unit in the interests of safety.

(2) Except for reasons of safety no transmission shall be directed to an aircraft during take-off, during the last part of the final approach or during the landing roll.

(3) Full radiotelephony call signs shall always be used when establishing communication. The calling procedure of an aircraft establishing communication shall be in accordance with Table 5-2.

Table 5-2 Radiotelephony calling procedure

	type (a)	type (b)	Type (c)
Designation of the station called	NEWYORK RADIO	NEWYORK RADIO	N E W Y O R K RADIO
designation of the station calling	GABCD***	SPEEDBIRD ABCD**	AEROFLOT 321***

*In certain cases where the call is initiated by the aeronautical station, the call may be effected by transmission of coded tone signals.*

*With the exception of the telephony designators and the type of aircraft, each character in the call sign shall be spoken separately. When individual letters are spelled out, the radiotelephony spelling alphabet prescribed in subparagraph 2(3) shall be used. Numbers are to be spoken in accordance with paragraph 3.*

(4) Stations having a requirement to transmit information to all stations likely to intercept shall preface such transmission by the general call ALL STATIONS, followed by the identification of the calling station.

(5) The reply to the above calls shall be in accordance with Table 5-3. The use of the calling aeronautical station's call sign followed by the answering aeronautical station's call sign shall be considered the invitation to proceed with transmission by the station calling.

**Table 5-3. Radiotelephony reply procedure**

	Type a)	Type b)	Type c)
Designation of the station called	GABCD*	SPEEDBIRD ABCD*	AEROFLOT321*
Designation of the answering station	NEW YORK RADIO	NEW YORK RADIO	NEW YORK RADIO

\* *With the exception of the telephony designators and the type of aircraft, each character in the call sign shall be spoken separately. When individual letters are spelled out, the radiotelephony spelling alphabet prescribed in subparagraph 2(4) shall be used. Numbers are to be spoken in accordance with paragraph 3.*

(6) When a station is called but is uncertain of the identification of the calling station, it shall reply by transmitting the following:

*STATION CALLING . . . (station called) SAY AGAIN YOUR CALL SIGN*

*Note.— The following example illustrates the application of this procedure:*

*(CAIRO station replying) STATION CALLING CAIRO (pause) SAY AGAIN YOUR CALL SIGN*

(7) Communications shall commence with a call and a reply when it is desired to establish contact, except that, when it is certain that the station called will receive the call, the calling station may transmit the message, without waiting for a reply from the station called.

(8) Interpilot air-to-air communication shall be established on the air-to-air channel 123.45 MHz by either a directed call to a specific aircraft station or a general call, taking into account conditions pertaining to use of this channel.

(9) As the aircraft may be guarding more than one frequency, the initial call shall include the distinctive channel identification “INTERPILOT”.

*Note.— The following examples illustrate the application of this calling procedure.*

CLIPPER 123 — SABENA 901 — INTERPILOT — DO YOU READ *or*  
ANY AIRCRAFT VICINITY OF 30 NORTH 160 EAST — JAPANAIR 401  
— INTERPILOT — OVER

## **10. Subsequent radiotelephony communications**

(1) Abbreviated radiotelephony call signs shall be used only after satisfactory communication has been established and provided that no confusion is likely to arise. An aircraft station shall use its abbreviated call sign only after it has been addressed in this manner by the aeronautical station.

(2) After contact has been established, continuous two-way communication shall be permitted without further identification or call until termination of the contact.

(3) In order to avoid any possible confusion, when issuing ATC clearances and reading back such clearances, controllers and pilots shall always add the call sign of the aircraft to which the clearance applies.

## **11. Indication of transmitting channels**

(1) As the aeronautical station operator generally guards more than one frequency, the call shall be followed by an indication of the frequency

used, unless other suitable means of identifying the frequency are known to exist.

(2) When no confusion is likely to arise, only the first two digits of the High Frequency (in kHz) shall be used to identify the transmitting channel.

*Note.*— *The following example illustrates the application of this procedure:*

*(PAA 325 calling Kingston on 8 871 kHz)*

KINGSTON CLIPPER THREE TWO FIVE — ON EIGHT EIGHT

(3) Except as specified in sub-paragraph (48) all six digits of the numerical designator shall be used to identify the transmitting channel in VHF radiotelephony communications, except in the case of both the fifth and sixth digits being zeros, in which case only the first four digits shall be used.

*Note 1.*— *The following examples illustrate the application of the procedure in sub-paragraph (3):*

<b>channel</b>	<b>Transmitted as</b>
118.000	ONE ONE EIGHT DECIMAL ZERO
118.005	ONE ONE EIGHT DECIMAL ZERO ZERO FIVE
118.010	ONE ONE EIGHT DECIMAL ZERO ONE ZERO
118.025	ONE ONE EIGHT DECIMAL ZERO TWO FIVE
118.050	ONE ONE EIGHT DECIMAL ZERO FIVE ZERO
118.100	ONE ONE EIGHT DECIMAL ONE

*Note 2.*— *Caution must be exercised with respect to the indication of transmitting channels in VHF radiotelephony communications when all six digits of the numerical designator are used in airspace where communication channels are separated by 25 kHz, because on aircraft installations with a channel separation capability of 25 kHz or more, it is only possible to select the first five digits of the numerical designator on the radio management panel.*

(4) In airspace where all VHF voice communications channels are separated by 25 kHz or more and the use of six digits as in sub-paragraph (3) is not substantiated by the operational requirement determined by the appropriate authorities, the first five digits of the numerical designator shall be used, except in the case of both the fifth and sixth digits being zeros, in which case only the first four digits shall be used.

*Note 1.— The following examples illustrate the application of the procedure in sub-paragraph (4) and the associated settings of the aircraft radio management panel for communication equipment with channel separation capabilities of 25 kHz and 8.33/25 kHz:*

Channel	Transmitted as	<i>Radio management panel setting for communication equipment with</i>	
		<i>25KHz (5digits)</i>	<i>8.33/25 kHz (6 digits)</i>
118.000	ONE ONE EIGHT DECIMAL ZERO	118.000	118.000
118.025	ONE ONE EIGHT DECIMAL ZERO TWO	118.02	118.025
118.050	ONE ONE EIGHT DECIMAL ZERO FIVE	118.05	118.050
118.075	ONE ONE EIGHT DECIMAL ZERO SEVEN	118.07	118.075
118.100	ONE ONE EIGHT DECIMAL ONE	118.10	118.100

*Note 2.— Caution must be exercised with respect to the indication of transmitting channels in VHF radiotelephony communications when five digits of the numerical designator are used in airspace where aircraft are also operated with channel separation capabilities of 8.33/25 kHz. On aircraft installations with a channel separation capability of 8.33 kHz and more, it is possible to select six digits on the radio management panel. It should therefore be ensured that the fifth and sixth digits are set to 25 kHz channels (see Note 1).*

## 12. Test Procedures

(5) The form of test transmissions shall be as follows:

- (a) the identification of the station being called;
- (b) the aircraft identification;
- (c) the words “RADIO CHECK”; and
- (d) the frequency being used.

(6) The reply to a test transmission shall be as follows:

- (a) the identification of the aircraft;
- (b) the identification of the aeronautical station replying; and
- (c) information regarding the readability of the aircraft transmission.

(7) The test transmission and reply thereto shall be recorded at the aeronautical station.

(8) When the tests are made, the following readability scale shall be used:

### ***Readability Scale***

- 1. *Unreadable*
- 2. *Readable now and then*
- 3. *Readable but with difficulty*
- 4. *Readable*
- 5. *Perfectly readable*

## 13. Exchange of communications

(1) Communications shall be concise and unambiguous, using standard phraseology whenever available.

(2) Abbreviated procedures shall only be used after initial contact has been established and where no confusion is likely to arise. Channel Transmitted as Radio management panel setting for communication equipment with

(3) Acknowledgement of receipt. The receiving operator shall make certain that the message has been received correctly before acknowledging receipt.

*Note.— Acknowledgement of receipt is not to be confused with acknowledgement of intercept in radiotelephony network operations.*

- (a) When transmitted by an aircraft station, the acknowledgement of receipt of a message shall comprise the call sign of that aircraft.
- (b) An aircraft station shall acknowledge receipt of important air traffic control messages or parts thereof by reading them back and terminating the readback by its radio call sign.

*Note 1.— Air traffic control clearances, instructions and information requiring readback are specified in Civil Aviation ATS Regulations..*

*Note 2.— The following example illustrates the application of this procedure: (ATC clearance by network station to an aircraft)*

Station: TWA NINE SIX THREE MADRID  
Aircraft: MADRID TWA NINE SIX THREE  
Station: TWA NINE SIX THREE MADRID — ATC  
CLEARS TWA NINE  
SIX THREE TO DESCEND TO NINE  
THOUSAND FEET

Aircraft (acknowledging) CLEARED TO DESCEND TO NINE THOUSAND  
FEET — TWA NINE SIX THREE

Station (denoting accuracy of readback): MADRID

- (c) When acknowledgement of receipt is transmitted by an aeronautical station:
  - (i) to an aircraft station: it shall comprise the call sign of the aircraft, followed if considered necessary by the call sign of the aeronautical station;

- (ii) to another aeronautical station: it shall comprise the call sign of the aeronautical station that is acknowledging receipt.

(4) An aeronautical station shall acknowledge position reports and other flight progress reports by reading back the report and terminating the readback by its call sign, except that the readback procedure may be suspended temporarily whenever it will alleviate congestion on the communication channel.

(5) It is permissible for verification for the receiving station to read back the message as an additional acknowledgement of receipt. In such instances, the station to which the information is read back shall acknowledge the correctness of readback by transmitting its call sign.

(6) If both position report and other information — such as weather reports — are received in the same message, the information shall be acknowledged with the words such as “WEATHER RECEIVED” after the position report has been read back, except when intercept of the information is required by other network stations. Other messages shall be acknowledged, the aeronautical station transmitting its call sign only.

(7) End of conversation. A radiotelephone conversation shall be terminated by the receiving station using its own call sign.

#### **14. Corrections and repetitions**

(1) When an error has been made in transmission, the word “CORRECTION” shall be spoken, the last correct group or phrase repeated, and then the correct version transmitted.

(2) If a correction can best be made by repeating the entire message, the operator shall use the phrase

“CORRECTION, I SAY AGAIN” before transmitting the message a second time.

(3) When an operator transmitting a message considers that reception is likely to be difficult, he shall transmit the important elements of the message twice.



(4) If the receiving operator is in doubt as to the correctness of the message received, he shall request repetition either in full or in part

(5) If repetition of an entire message is required, the words “SAY AGAIN” shall be spoken. If repetition of a portion of a message is required, the operator shall state: “SAY AGAIN ALL BEFORE...(first word satisfactorily received)”; or “SAY AGAIN...(word before missing portion) TO...(word after missing portion)”; or “SAY AGAIN ALL AFTER...(last word satisfactorily received)”.

(6) Specific items shall be requested, as appropriate, such as “SAY AGAIN ALTIMETER”, “SAY AGAIN WIND”.

(7) If, in checking the correctness of a readback, an operator notices incorrect items, he shall transmit the words “NEGATIVE I SAY AGAIN” at the conclusion of the readback followed by the correct version of the items concerned.

## **15. Operations normal reports**

(1) When “operations normal” reports are transmitted by aircraft, they shall consist of the prescribed call followed by the words “OPERATIONS NORMAL”.

## **16. Communications watch/hours of service**

(1) During flight, aircraft stations shall maintain watch as required by the appropriate Authority and shall not cease watch, except for reasons of safety, without informing the aeronautical station(s) concerned.

(2) Aircraft on long over-water flights, or on flights over designated areas over which the carriage of an emergency locator transmitter (ELT) is required, shall continuously guard the VHF emergency frequency 121.5 MHz, except for those periods when aircraft are carrying out communications on other VHF channels or when airborne equipment limitations or cockpit duties do not permit simultaneous guarding of two channels.

(3) Aircraft shall continuously guard the VHF emergency frequency 121.5 MHz in areas or over routes where the possibility of interception

of aircraft or other hazardous situations exist, and a requirement has been established by the appropriate authority.

(4) Aircraft on flights other than those specified in sub-paragraphs 2 and 3 shall guard the emergency frequency 121.5 MHz to the extent possible.

(5) The user of the air-to-air VHF communications channel shall ensure that adequate watch is maintained on designated ATS frequencies, the frequency of the aeronautical emergency channel, and any other mandatory watch frequencies.

(6) Aeronautical stations shall maintain watch as required by the appropriate Authority.

Aeronautical stations shall maintain a continuous listening watch on VHF emergency channel 121.5 MHz during the hours of service of the units at which it is installed.

(7) When it is necessary for an aircraft station or aeronautical station to suspend operation for any reason, it shall, if possible, so inform other stations concerned, giving the time at which it is expected that operation will be resumed. When operation is resumed, other stations concerned shall be so informed.

(a) When it is necessary to suspend operation beyond the time specified in the original notice, a revised time of resumption of operation shall, if possible, be transmitted at or near the time first specified.

(8) When two or more ATS frequencies are being used by a controller, consideration shall be given to providing facilities to allow ATS and aircraft transmissions on any of the frequencies to be simultaneously retransmitted on the other frequencies in use thus permitting aircraft stations within range to hear all transmissions to and from the controller.

## **17. Principles of network operation (HF communications)**

(1) The aeronautical stations of a radiotelephony network shall assist each other in accordance with the following network principles, in order to

provide the air-ground communication service required of the network by aircraft flying on the air routes for which the network is responsible.

(2) When the network comprises a large number of stations, network communications for flights on any individual route segment shall be provided by selected stations, termed “regular stations” for that segment.

*Note 1.— The selection of stations to act as regular stations for a particular route segment will, where necessary, be undertaken by regional or local agreement, after consultation, if necessary, between the States responsible for the network.*

*Note 2.— In principle, the regular stations will be those serving the locations immediately concerned with flights on that route segment, i.e. points of take-off and landing, appropriate flight information centres or area control centres and, in some cases, additional suitably located stations required to complete the communication coverage or for intercept purposes.*

*Note 3.— In selecting the regular stations, account will be taken of the propagation characteristics of the frequencies used.*

(3) In areas or on routes where radio conditions, length of flights or distance between aeronautical stations require additional measures to ensure continuity of air-ground communication throughout the route segment, the regular stations shall share between them a responsibility of primary guard whereby each station will provide the primary guard for that portion of the flight during which the messages from the aircraft can be handled most effectively by that station.

(4) During its tenure of primary guard, each regular station shall, among other things:

- (a) be responsible for designating suitable primary and secondary frequencies for its communications with the aircraft;
- (b) receive all position reports and handle other messages from and to the aircraft essential to the safe conduct of the flight; and

- (c) be responsible for the action required in case of failure of communications.

(5) The transfer of primary guard from one station to the next will normally take place at the time of the traversing of flight information region or control area boundaries, this guard being provided at any time, as far as possible, by the station serving the flight information centre or area control centre in whose area the aircraft is flying. However, where communication conditions so demand, a station shall be required to retain primary guard beyond such geographical boundaries or release its guard before the aircraft reaches the boundary, if appreciable improvement in air-ground communication can be effected thereby.

## **18. Frequencies to be used**

(1) Aircraft stations shall operate on the appropriate radio frequencies.

- (a) The air-ground control radio station shall designate the frequency(ies) to be used under normal conditions by aircraft stations operating under its control.
- (b) In network operation, the initial designation of primary and secondary frequencies shall be made by the network station with which the aircraft makes pre-flight check or its initial contact after take-off. This station shall also ensure that other network stations are advised, as required, of the frequency(ies) designated.

(2) An aeronautical station, when designating frequencies in accordance with subparagraphs (1)(a) or (1)(b), shall take into account the appropriate propagation data and distance over which communications are required.

(3) If a frequency designated by an aeronautical station proves to be unsuitable, the aircraft station shall suggest an alternative frequency.

(4) When, notwithstanding regulation 55 (1), air-ground frequencies are used for the exchange between network stations of messages essential for coordination and cooperation between the stations, such communication shall, so far as possible, be effected over network frequencies not being used at that time for the bulk of the air-ground traffic. In all cases, the

communication with aircraft stations shall take priority over the inter-ground station communications.

## **19. Establishment of communications**

(1) Aircraft stations shall, if possible, communicate directly with the air-ground control radio station appropriate to the area in which the aircraft are flying. If unable to do so, aircraft stations shall use any relay means available and appropriate to transmit messages to the air-ground control radio station.

(2) When normal communications from an aeronautical station to an aircraft station cannot be established, the aeronautical station shall use any relay means available and appropriate to transmit messages to the aircraft station. If these efforts fail, the originator shall be advised in accordance with procedures prescribed by the appropriate Authority.

(3) When, in network operation, communication between an aircraft station and a regular station has not been established after calls on the primary and secondary frequencies, aid shall be rendered by one of the other regular stations for that flight, either by calling the attention of the station first called or, in the case of a call made by an aircraft station, by answering the call and taking the traffic.

(4) Other stations of the network shall render assistance by taking similar action only if attempts to establish communications by the regular stations have proved unsuccessful.

(5) Sub-paragraphs (3) and (4) shall also be applied:

- (a) on request of the air traffic services unit concerned;
- (b) when an expected communication from an aircraft has not been received within a time period such that the occurrence of a communication failure is suspected.

*Note.— A specific time period may be prescribed by the appropriate ATS Authority.*

## 20. Transfer of HF communications

(1) An aircraft station shall be advised by the appropriate aeronautical station to transfer from one radio frequency or network to another. In the absence of such advice, the aircraft station shall notify the appropriate aeronautical station before such transfer takes place.

(2) In the case of transfer from one network to another, the transfer shall preferably take place while the aircraft is in communication with a station operating in both networks to ensure continuity of communications. If, however, the change of network must take place concurrently with the transfer of communication to another network station, the transfer shall be coordinated by the two network stations prior to advising or authorizing the frequency change. The aircraft shall also be advised of the primary and secondary frequencies to be used after the transfer.

(3) An aircraft station which has transferred communications watch from one radio frequency to another shall, when so required by the appropriate ATS Authority, inform the aeronautical station concerned that communications watch has been established on the new frequency.

(4) When entering a network after take-off, an aircraft station shall transmit its take-off time or time over the last check-point, to the appropriate regular station.

(5) When entering a new network, an aircraft station shall transmit the time over the last checkpoint, or of its last reported position, to the appropriate regular station.

(6) Before leaving the network, an aircraft station shall in all cases advise the appropriate regular station of its intention to do so by transmitting one of the following phrases, as appropriate:

- (a) *when transferring to a pilot-to-controller channel: Aircraft: CHANGING TO . . . (air traffic services unit concerned)*
- (b) *after landing: Aircraft: LANDED . . . (location) . . . (time)*

## 21. Transfer of VHF communications

(1) An aircraft shall be advised by the appropriate aeronautical station to transfer from one radio frequency to another in accordance with agreed

procedures. In the absence of such advice, the aircraft station shall notify the appropriate aeronautical station before such a transfer takes place.

(2) When establishing initial contact on, or when leaving, a VHF frequency, an aircraft station shall transmit such information as may be prescribed by the appropriate Authority.

## **22. Voice communications failure**

(1) When an aircraft station fails to establish contact with the appropriate aeronautical station on the designated channel, it shall attempt to establish contact on the previous channel used and, if not successful, on another channel appropriate to the route. If these attempts fail, the aircraft station shall attempt to establish communication with the appropriate aeronautical station, other aeronautical stations or other aircraft using all available means and advise the aeronautical station that contact on the assigned channel could not be established. In addition, an aircraft operating within a network shall monitor the appropriate VHF channel for calls from nearby aircraft.

(2) If the attempts specified under sub-paragraph (1) fail, the aircraft station shall transmit its message twice on the designated channel(s), preceded by the phrase “TRANSMITTING BLIND” and, if necessary, include the addressee(s) for which the message is intended.

(3) In network operation, a message which is transmitted blind shall be transmitted twice on both primary and secondary channels. Before changing channel, the aircraft station shall announce the channel to which it is changing.

(4) When an aircraft station is unable to establish communication due to receiver failure, it shall transmit reports at the scheduled times, or positions, on the channel in use, preceded by the phrase “TRANSMITTING BLIND DUE TO RECEIVER FAILURE”. The aircraft station shall transmit the intended message, following this by a complete repetition. During this procedure, the aircraft shall also advise the time of its next intended transmission.

(5) An aircraft which is provided with air traffic control or advisory service shall, in addition to complying with subparagraph (4), transmit information regarding the intention of the pilot-in-command with respect to the continuation of the flight of the aircraft.

(6) When an aircraft is unable to establish communication due to airborne equipment failure it shall, when so equipped, select the appropriate SSR code to indicate radio failure.

(7) When an aeronautical station has been unable to establish contact with an aircraft station after calls on the frequencies on which the aircraft is believed to be listening, it shall:

- (a) request other aeronautical stations to render assistance by calling the aircraft and relaying traffic, if necessary;
- (b) request aircraft on the route to attempt to establish communication with the aircraft and relay traffic, if necessary.

(1) The provisions of sub-paragraph (7) shall also be applied:

- (a) on request of the air traffic services unit concerned;
- (b) when an expected communication from an aircraft has not been received within a time period such that the occurrence of a communication failure is suspected.

(2) If the attempts specified in sub-paragraph (7) fail, the aeronautical station shall transmit messages addressed to the aircraft, other than messages containing air traffic control clearances, by blind transmission on the frequency(ies) on which the aircraft is believed to be listening.

(3) Blind transmission of air traffic control clearances shall not be made to aircraft, except at the specific request of the originator.

(4) Notification of communications failure. The air-ground control radio station shall notify the appropriate air traffic services unit and the aircraft operating agency, as soon as possible, of any failure in air-ground communication.



### 23. HF message handling

(1) When operating within a network, an aircraft station shall, in principle, whenever communications conditions so permit, transmit its messages to the stations of the network from which they can be most readily delivered to their ultimate destinations. In particular, aircraft reports required by air traffic services shall be transmitted to the network station serving the flight information centre or area control centre in whose area the aircraft is flying. Conversely, messages to aircraft in flight shall, whenever possible, be transmitted directly to the aircraft by the network station serving the location of the originator.

*Note.— Exceptionally, an aircraft may need to communicate with an aeronautical station outside the network appropriate to its particular route segment. This is permissible, provided it can be done without interrupting the continuous watch with the communication network appropriate to the route segment, when such watch is required by the appropriate ATS Authority, and provided it does not cause undue interference with the operation of other aeronautical stations.*

(2) Messages passed from an aircraft to a network station shall, whenever possible, be intercepted and acknowledged by other stations of the network, which serve locations where the information is also required.

*Note 1.— Determination of the arrangements for dissemination of air-ground messages without address will be a matter for multilateral or local agreement.*

*Note 2.— In principle, the number of stations required to intercept are to be kept to a minimum consistent with the operational requirement.*

- (a) Acknowledgement of intercept shall be made immediately after the acknowledgement of receipt by the station to which the message was passed.
- (b) Acknowledgement of an intercept message shall be made by transmitting the radio call sign of the station having intercepted the message, followed by the word ROGER, if desired, and the call sign of the station having transmitted the message.

(3) In the absence of acknowledgement of intercept within one minute, the station accepting the message from the aircraft shall forward it, normally over the aeronautical fixed service, to the station(s) which have failed to acknowledge intercept.

(4) If, in abnormal circumstances, forwarding is necessary using the air-ground channels, the provisions of subparagraph 18 (4) shall be observed.

(5) When such forwarding is done over the aeronautical fixed telecommunication network, the messages shall be addressed to the network station(s) concerned.

(6) The station(s) to which the messages have been forwarded shall carry out local distribution of them in the same way as if they had been received directly from the aircraft over the air-ground channel.

(7) The aeronautical station receiving an air report or a message containing meteorological information transmitted by an aircraft in flight shall forward the message without delay:

- (a) to the air traffic services unit and meteorological offices associated with the station;
- (b) to the aircraft operating agency concerned or its representative when that agency has made a specific request to receive such messages.

(8) The provisions of sub-paragraph (2) shall also be applied, if practicable, in non-network operation.

(9) When a message addressed to an aircraft in flight is received by the aeronautical station included in the address, and when that station is not able to establish communication with the aircraft to which the message is addressed, the message shall be forwarded to those aeronautical stations on the route which may be able to establish communication with the aircraft.

- (a) If the aeronautical station to which the message is addressed is unable to dispose of the message in accordance with subparagraph (9), the station of origin shall be advised.

- (b) The aeronautical station forwarding the message shall amend the address thereof, by substituting for its own location indicator the location indicator of the aeronautical station to which the message is being forwarded.

#### **24. Transmission of ATS messages to aircraft**

(1) If it is not possible to deliver an ATS message to the aircraft within the time specified by ATS, the aeronautical station shall notify the originator. Thereafter, it shall take no further action with respect to this message unless specifically instructed by ATS.

(2) If delivery of an ATS message is uncertain because of inability to secure an acknowledgement, the aeronautical station shall assume that the message has not been received by the aircraft and shall advise the originator immediately that, although the message has been transmitted, it has not been acknowledged.

(3) The aeronautical station, having received the message from ATS, shall not delegate to another station the responsibility for delivery of the message to the aircraft. However, in case of communication difficulties, other stations shall assist, when requested, in relaying the message to the aircraft. In this case, the station having received the message from ATS shall obtain without delay definite assurance that the aircraft has correctly acknowledged the message.

#### **25. SELCAL procedures**

(1) With the selective calling system known as SELCAL, the voice calling is replaced by the transmission of coded tones to the aircraft over the radiotelephony channels. A single selective call consists of a combination of four pre-selected audio tones whose transmission requires approximately 2 seconds. The tones are generated in the aeronautical station coder and are received by a decoder connected to the audio output of the airborne receiver. Receipt of the assigned tone code (SELCAL code) activates a cockpit call system in the form of light and/or chime signals.

(2) SELCAL shall be utilized by suitably equipped stations for ground-to-air selective calling on the en-route HF and VHF radio channels.

(3) On aircraft equipped with SELCAL, the pilot is still able to keep a conventional listening watch if required.

## **26. Notification to aeronautical stations of aircraft SELCAL Codes**

(1) It shall be the responsibility of the aircraft operating agency and the aircraft to ensure that all aeronautical stations, with which the aircraft would normally communicate during a particular flight, know the SELCAL code associated with its radiotelephony call sign.

(2) When practicable, the aircraft operating agency shall disseminate to all aeronautical stations concerned, at regular intervals, a list of SELCAL codes assigned to its aircraft or flights.

(3) The aircraft shall:

- a) include the SELCAL code in the flight plan submitted to the appropriate air traffic services unit; and
- b) ensure that the HF aeronautical station has the correct SELCAL code information by establishing communications temporarily with the HF aeronautical station while still within VHF coverage.

## **27. SELCAL Pre-flight Check**

(1) The aircraft station shall contact the appropriate aeronautical station and request a pre-flight SELCAL check and, if necessary, give its SELCAL code.

(2) When primary and secondary frequencies are assigned, a SELCAL check shall normally be made first on the secondary frequency and then on the primary frequency. The aircraft station shall then be ready for continued communication on the primary frequency.

(3) If the pre-flight check reveal that either the ground or airborne SELCAL installation is inoperative, the aircraft shall maintain a continuous listening watch on its subsequent flight until SELCAL again becomes available.

## **28. Establishment of communication with SELCAL**

(1) When an aeronautical station initiates a call by SELCAL, the aircraft shall reply with its radio call sign, followed by the phrase “GO AHEAD”.

## **29. SELCAL Enroute Procedures**

(1) Aircraft stations shall ensure that the appropriate aeronautical station(s) are aware that SELCAL watch is being established or maintained.

(2) When so prescribed on the basis of regional air navigation agreements, calls for scheduled reports from aircraft shall be initiated by an aeronautical station by means of SELCAL.

(3) Once SELCAL watch has been established by a particular aircraft station, aeronautical stations shall employ SELCAL whenever they require to call aircraft.

(4) In the event the SELCAL signal remains unanswered after two calls on the primary frequency and two calls on the secondary frequency, the aeronautical station shall revert to voice calling.

(5) Stations in a network shall keep each other immediately advised when malfunctioning occurs in a SELCAL installation on the ground or in the air. Likewise, the aircraft shall ensure that the aeronautical stations concerned with its flight are immediately made aware of any malfunctioning of its SELCAL installation, and that voice calling is necessary.

(6) All stations shall be advised when the SELCAL installation is again functioning normally.

## **30. SELCAL Code Assignment to Aircraft**

(1) In principle, the SELCAL code in the aircraft shall be associated with the radiotelephony call sign, i.e. where the flight number (service number) is employed in the radio call sign, the SELCAL code in the aircraft shall be listed against the flight number. In all other cases, the SELCAL code in the aircraft shall be listed against the aircraft registration.

## SCHEDULE 7

Regulation 65

### **DISTRESS AND URGENCY RADIOTELEPHONY COMMUNICATION PROCEDURES**

#### **1. General.**

(1) Distress and urgency traffic shall comprise all radiotelephony messages relative to the distress and urgency conditions respectively. Distress and urgency conditions are defined as:

- (a) *Distress*: a condition of being threatened by serious and/or imminent danger and of requiring immediate assistance.
- (b) *Urgency*: a condition concerning the safety of an aircraft or other vehicle, or of some person on board or within sight, but which does not require immediate assistance.

(2) The radiotelephony distress signal MAYDAY and the radiotelephony urgency signal PAN PAN shall be used at the commencement of the first distress and urgency communication respectively. At the commencement of any subsequent communication in distress and urgency traffic, it shall be permissible to use the radiotelephony distress and urgency signals.

(3) The originator of messages addressed to an aircraft in distress or urgency condition shall restrict to the minimum the number and volume and content of such messages as required by the condition.

(4) If no acknowledgement of the distress or urgency message is made by the station addressed by the aircraft, other stations shall render assistance, as prescribed in paragraphs 3 and 8 respectively.

(5) Distress and urgency traffic shall normally be maintained on the frequency on which such traffic was initiated until it is considered that better assistance can be provided by transferring that traffic to another frequency.

(6) In cases of distress and urgency communications, in general, the transmissions by radiotelephony shall be made slowly and distinctly, each word being clearly pronounced to facilitate transcription.

## **2. Radiotelephony distress communications**

In addition to being preceded by the radiotelephony distress signal MAYDAY, preferably spoken three times, the distress message to be sent by an aircraft in distress shall:

- (a) be on the air-ground frequency in use at the time;
- (b) consist of as many as possible of the following elements spoken distinctly and, if possible, in the following order:
  - (i) name of the station addressed (time and circumstances permitting);
  - (ii) the identification of the aircraft;
  - (iii) the nature of the distress condition;
  - (iv) intention of the person in command;
  - (v) present position, level (i.e. flight level, altitude, etc., as appropriate) and heading.

## **3. Action by the station addressed or first station acknowledging the distress message**

The station addressed by aircraft in distress, or first station acknowledging the distress message, shall:

- (a) immediately acknowledge the distress message;
- (b) take control of the communications or specifically and clearly transfer that responsibility, advising the aircraft if a transfer is made;
- (c) take immediate action to ensure that all necessary information is made available, as soon as possible, to:
  - (i) the ATS unit concerned;
  - (ii) the aircraft operating agency concerned, or its representative, in accordance with pre-established arrangements;

*Note.— The requirement to inform the aircraft operating agency concerned does not have priority over any other action which involves the safety of the*

*flight in distress, or of any other flight in the area, or which might affect the progress of expected flights in the area.*

- (d) warn other stations, as appropriate, in order to prevent the transfer of traffic to the frequency of the distress communication.

#### **4. Imposition of Silence after Distress communication**

(1) The station in distress, or the station in control of distress traffic, shall be permitted to impose silence, either on all stations of the mobile service in the area or on any station which interferes with the distress traffic. It shall address these instructions “to all stations”, or to one station only, according to circumstances. In either case, it shall use:

- (a) STOP TRANSMITTING;
- (b) the radiotelephony distress signal MAYDAY.

(2) The use of the signals specified in sub-paragraph (10) shall be reserved for the aircraft station in distress and for the station controlling the distress traffic.

#### **5. Action by all other stations after a distress communication**

(1) The distress communications have absolute priority over all other communications, and a station aware of them shall not transmit on the frequency concerned, unless:

- (a) the distress is cancelled or the distress traffic is terminated;
- (b) all distress traffic has been transferred to other frequencies;
- (c) the station controlling communications gives permission;
- (d) it has itself to render assistance.

(2) Any station which has knowledge of distress traffic, and which cannot itself assist the station in distress, shall nevertheless continue listening to such traffic until it is evident that assistance is being provided.

#### **6. Termination of Distress Communications and of Silence**

(1) When an aircraft is no longer in distress, it shall transmit a message cancelling the distress condition.



(2) When the station which has controlled the distress communication traffic becomes aware that the distress condition is ended, it shall take immediate action to ensure that this information is made available, as soon as possible, to:

- (a) the ATS unit concerned;
- (b) the aircraft operating agency concerned, or its representative, in accordance with pre-established arrangements.

(3) The distress communication and silence conditions shall be terminated by transmitting a message, including the words “DISTRESS TRAFFIC ENDED”, on the frequency or frequencies being used for the distress traffic. This message shall be originated only by the station controlling the communications when, after the reception of the message prescribed in sub-paragraph (7), it is authorized to do so by the appropriate authority.

## **7. Radiotelephony urgency communications**

(1) Action by the aircraft reporting an urgency condition except as indicated in paragraph 11 shall be as mentioned in subparagraph (2).

(2) In addition to being preceded by the radiotelephony urgency signal PAN PAN preferably spoken three times and each word of the group pronounced as the French word “panne”, the urgency message to be sent by an aircraft reporting an urgency condition shall:

- (a) be on the air-ground frequency in use at the time;
- (b) consist of as many as required of the following elements spoken distinctly and, if possible, in the following order:
  - (i) the name of the station addressed;
  - (ii) the identification of the aircraft;
  - (iii) the nature of the urgency condition;
  - (iv) the intention of the person in command;
  - (v) present position, level (i.e. flight level, altitude, etc., as appropriate) and heading;
  - (vi) any other useful information.

**8. Action by the station addressed or first station acknowledging the urgency message**

The station addressed by an aircraft reporting an urgency condition, or first station acknowledging the urgency message, shall:

- (a) acknowledge the urgency message;
- (b) take immediate action to ensure that all necessary information is made available, as soon as possible, to:
  - (ii) the ATS unit concerned;
  - (iii) the aircraft operating agency concerned, or its representative, in accordance with pre-established arrangements;
- (c) if necessary, exercise control of communications.

**9. Action by all other stations**

The urgency communications have priority over all other communications, except distress, and all stations shall take care not to interfere with the transmission of urgency traffic.

**10. Action by an aircraft used for medical transports**

(1) The use of the signal described in sub-paragraph (2) shall indicate that the message which follows concerns a protected medical transports pursuant to the 1949 Geneva Conventions and Additional Protocols.

(2) For the purpose of announcing and identifying aircraft used for medical transports, a transmission of the radiotelephony urgency signal PAN PAN, preferably spoken three times, and each word of the group pronounced as the French word “panne”, shall be followed by the radiotelephony signal for medical transports MAY-DEE-CAL, pronounced as in the French “médical”. The use of the signals described above indicates that the message which follows concerns a protected medical transport. The message shall convey the following data:

- (a) the call sign or other recognized means of identification of the medical transports;
- (b) position of the medical transports;

- (c) number and type of medical transports;
- (d) intended route;
- (e) estimated time en-route and of departure and arrival, as appropriate; and
- (f) any other information such as flight altitude, radio frequencies guarded, languages used, and secondary surveillance radar modes and codes.

**11. Action by the station addressed or by other stations receiving a medical message.**

The provisions of Paragraphs 8 and 9 shall apply as appropriate to stations receiving a medical message

## SCHEDULE 8

*Regulation 71*

### **RADIOTELEPHONE BROADCAST PROCEDURES**

#### **1. Broadcast technique**

(1) Transmissions by radiotelephone shall be as natural, short and concise as practicable consistent with clarity.

(2) Rate of speech on radiotelephone broadcasts shall not exceed 100 words per minute.

#### **2. Preamble of the general call**

The preamble of each radiotelephone broadcast shall consist of the general call, station name, and optionally the time of broadcast (UTC).

*Note.— The following example illustrates the application of this procedure:*

*(general call)*

*ALL STATIONS*

*(the words)*

*THIS IS) THIS IS*

*(station name)*

*NEW YORK RADIO*

*(time of broadcast)*

*TIME, ZERO ZERO FOUR FIVE*

## SCHEDULE 9

*Regulations 73 and 75*

### AERONAUTICAL MOBILE SERVICE — DATA LINK COMMUNICATIONS

#### 1. General

While the provisions of this Schedule are based primarily on the use of controller-pilot data link communications (CPDLC), the provisions of paragraph 2 would apply to other data link applications, where applicable, including Data link—flight information services (e.g. D-ATIS, DVOLMET, etc.).

For the purposes of these provisions, the communication procedures applicable to the aeronautical mobile service, as appropriate, also apply to the aeronautical mobile satellite service.

#### 2. Composition of data link messages

(1) The text of messages shall be composed in standard message format (e.g. CPDLC message set), in plain language or in abbreviations and codes, as prescribed in regulation 33. Plain language shall be avoided when the length of the text can be reduced by using appropriate abbreviations and codes. Nonessential words and phrases, such as expressions of politeness, shall not be used.

(2) The following characters are allowed in the composition of messages:

*Letters:* ABCDEFGHIJKLMNOPQRSTUVWXYZ (upper case only)

*Figures:* 1 2 3 4 5 6 7 8 9 0

*Other signs:*

- (hyphen)

? (question mark)

: (colon)

( (open bracket)

) (close bracket)

- . (full stop, period, or decimal point)
- , (comma)
- ' (apostrophe)
- = (double hyphen or equal sign)
- / (oblique)
- + (plus sign)

and the space character.

Characters other than those listed above shall not be used in messages.

(3) Roman numerals shall not be employed. If the originator of a message wishes the addressee to be informed that Roman figures are intended, the Arabic figure or figures shall be written and preceded by the word ROMAN.

(4) Display of data link messages

- (a) Ground and airborne systems shall allow for messages to be appropriately displayed, printed when required, and stored in a manner that permits timely and convenient retrieval should such action be necessary.
- (b) Whenever textual presentation is required, the English language shall be displayed as a minimum.

### 3. CPDLC procedures

(1) In all communications the highest standard of discipline shall be observed at all times.

- (a) Consequences of human performance, which could affect the accurate reception and comprehension of messages, shall be taken into consideration when composing a message.

*Note.— Guidance material on human performance can be found in the Human Factors Training Manual (Doc 9683) and Human Factors Guidelines for Air Traffic Management (ATM) Systems (Doc 9758).*

(2) Ground and airborne systems shall provide controllers and pilots with the capability to review and validate any operational messages they send.

(3) Ground and airborne systems shall provide controllers and pilots with the capability to review, validate and when applicable, acknowledge any operational messages they receive.

(4) The controller shall be provided with the capability to respond to messages, including emergencies, to issue clearances, instructions and advisories, and to request and provide information, as appropriate.

(5) The pilot shall be provided with the capability to respond to messages, to request clearances and information, to report information, and to declare or cancel an emergency.

(6) The pilot and the controller shall be provided with the capability to exchange messages which do not conform to defined formats (i.e. free text messages).

(7) Unless specified by the appropriate ATS authority, voice read-back of CPDLC messages shall not be required.

#### **4. Establishment of CPDLC**

(1) The controller and the pilot shall be informed when CPDLC has been successfully established.

(2) CPDLC shall be established in sufficient time to ensure that the aircraft is communicating with the appropriate ATC unit.

(3) The controller and pilot shall be informed when CPDLC is available for operational use, at initial establishment, as well as on resumption of CPDLC after a failure.

(4) The pilot shall be able to identify the air traffic unit providing the air traffic control service at any time while the service is being provided.

(5) When the airborne system detects that CPDLC is available for operational use, it shall send the CPDLC downlink message element

## CURRENT DATA AUTHORITY.

### **5. Airborne-initiated CPDLC**

(1) When an ATC unit receives an unexpected request for CPDLC from an aircraft, the circumstances leading to the request shall be obtained from the aircraft to determine further action.

(2) When the ATC unit rejects a request for CPDLC, it shall provide the pilot with the reason for the rejection using an appropriate CPDLC message.

### **6. ATC unit-initiated CPDLC**

(1) An ATC unit shall only establish CPDLC with an aircraft if the aircraft has no CPDLC link established, or when authorized by the ATC unit currently having CPDLC established with the aircraft.

(2) When a request for CPDLC is rejected by an aircraft, the reason for the rejection shall be provided using CPDLC downlink message element NOT CURRENT DATA AUTHORITY or message element NOT AUTHORIZED NEXT DATA AUTHORITY, as appropriate. Local procedures shall dictate whether the reason for rejection is presented to the controller. No other reasons for airborne rejection of ATC unit initiation of CPDLC shall be permitted.

### **7. Exchange of operational CPDLC messages**

(1) Controllers and pilots shall construct CPDLC messages using the defined message set, a free text message or a combination of both.

- (a) When CPDLC is being used, and the intent of the message is included in the CPDLC message set contained in the PANS-ATM, Appendix 5, the associated message shall be used.
- (b) Except as provided by paragraph 11 when a controller or pilot communicates via CPDLC, the response shall be via CPDLC. When a controller or pilot communicates via voice, the response shall be via voice.
- (c) Whenever a correction to a message sent via CPDLC is deemed necessary or the contents of a message needs to be clarified, the



controller or pilot shall use the most appropriate means available for issuing the correct details or for providing clarification.

- (i) When voice communications are used to correct a CPDLC message for which no operational response has yet been received, the controller's or pilot's transmission shall be prefaced by the phrase: "DISREGARD CPDLC (message type) MESSAGE, BREAK" — followed by the correct clearance, instruction, information or request.
- (ii) When referring to and identifying the CPDLC message to be disregarded, caution shall be exercised in its phrasing so as to avoid any ambiguity with the issuance of the accompanying corrected clearance, instruction, information or request.

*Note.— For example, if SAS445, maintaining FL290, had been instructed via CPDLC to climb to FL350, and the controller needs to correct the clearance utilizing voice communications, the following phrase might be used:*

SAS445 DISREGARD CPDLC CLIMB CLEARANCE MESSAGE,  
BREAK, CLIMB TO FL310.

- (iii) If a CPDLC message that requires an operational response is subsequently negotiated via voice, an appropriate CPDLC message closure response shall be sent to ensure proper synchronization of the CPDLC dialogue. This could be achieved either by explicitly instructing the recipient of the message via voice to close the dialogue or by allowing the system to automatically close the dialogue.

(2) The composition of a CPDLC message shall not exceed five message elements, only two of which may contain the route clearance variable.

- (a) The use of long messages or messages with multiple clearance elements, multiple clearance request elements or messages with a combination of clearances and information shall be avoided where possible.

*Note.— Guidance material on the development of local operating procedures and CPDLC good operating technique can be found in the Human Factors Guidelines for Air Traffic Management (ATM) Systems (Doc 9758).*

- (3) CPDLC ground systems and airborne systems shall be capable of using the CPDLC message urgency and alert attributes to alter presentations in order to draw attention to higher priority messages.

*Note.— Message attributes dictate certain message handling requirements for the CPDLC user receiving a message. Each CPDLC message has three attributes: urgency, alert and response attributes. When a message contains multiple message elements, the highest precedence message element attribute type becomes the attribute type for the entire message.*

- (a) The alert attribute shall delineate the type of alerting required upon message receipt. Alert types are presented in Table 9-1.

Table 9-1 Alert Attribute (uplink and downlink)

Type	Description	Precedence
H	High	1
M	Medium	2
L	Low	3
N	No alerting required	4

- (b) The response attribute shall delineate valid responses for a given message element. Response types are presented in Table 9-2 for uplink messages and Table 9-3 for downlink messages.
  - (i) When a multi-element message requires a response, and the response is in the form of a single message element, the response shall apply to all message elements.

*Note.— For example, a multi-element message containing*

CLIMB TO FL310 MAINTAIN MACH.84, a WILCO response applies to, and indicates compliance with, both elements of the message.

- (ii) When a single message element clearance or any part of a multi-element clearance message cannot be complied with, the pilot shall send an UNABLE response for the whole message.
- (iii) The controller shall respond with an UNABLE message that applies to all elements of the request when no element(s) of a single or multi-element clearance request can be approved. The current clearance(s) shall not be restated.
- (iv) When a multi-element clearance request can only be partially accommodated, the controller shall respond with an UNABLE message applying to all the message elements of the request and, if appropriate, include a reason and/or information on when a clearance may be expected.

Table 9-2. Response Attribute (uplink)

Type	Response required	Valid responses	Precedence
W/U	Yes	WILCO, UNABLE, STANDBY, NOT CURRENT DATA AUTHORITY, NOT AUTHORIZED NEXT DATA AUTHORITY, LOGICAL ACKNOWLEDGEMENT (only if required), ERROR	1
A/N	Yes	AFFIRM, NEGATIVE, STANDBY, NOT CURRENT DATA AUTHORITY, NOT AUTHORIZED NEXT DATA AUTHORITY, LOGICAL ACKNOWLEDGEMENT (only if required), ERROR	2
R	Yes	ROGER, UNABLE, STANDBY, NOT CURRENT DATA AUTHORITY, NOT AUTHORIZED NEXT DATA AUTHORITY, LOGICAL ACKNOWLEDGEMENT (only if required), ERROR	3
Y	Yes	Any CPDLC downlink message, LOGICAL ACKNOWLEDGEMENT (only if required)	4
N	No, unless logical acknowledgement required	LOGICAL ACKNOWLEDGEMENT (only if required), NOT CURRENT DATA AUTHORITY, NOT AUTHORIZED NEXT DATA AUTHORITY, ERROR	5

Table 9-3. Response Attribute (downlink)

Type	Response required	Valid responses	Precedence
Y	Yes	Any CPDLC uplink message, LOGICAL ACKNOWLEDGEMENT (only if required)	1
N	No unless logical acknowledgement required	LOGICAL ACKNOWLEDGEMENT (only if required), MESSAGE NOT SUPPORTED BY THIS ATC UNIT, ERROR	2

*Note.*— A separate CPDLC message (or messages) may subsequently be transmitted to respond to those elements that can be accommodated.

- (v) When all elements of a single or multi-element clearance request can be accommodated, the controller shall respond with clearances corresponding to each element of the request. This response shall be a single uplink message.

*Note.*— For example, while messages containing multi-element clearance requests are to be avoided, a multi-element downlink message containing the indicated message elements:

REQUEST CLEARANCE YQM YYG YYT YQX  
TRACK X EINN EDDF  
REQUEST CLIMB TO FL350  
REQUEST MACH 0.84

*could be responded to with*

CLEARED YQM YYG YYT YQX TRACK X EINN  
EDDF CLIMB TO FL350

REPORT MAINTAINING  
CROSS YYG AT OR AFTER 1150  
NO SPEED RESTRICTION.

- (vi) When a CPDLC message contains more than one message element and the response attribute for the message is Y, when utilized, the single response message shall contain the corresponding number of replies in the same order.

*Note.— For example, a multi-element uplink message containing*

CONFIRM SQUAWK  
WHEN CAN YOU ACCEPT FL410

*could be responded to with*

SQUAWKING 5525  
WE CAN ACCEPT FL410 AT 1636Z

(4) When a ground or airborne system generates the CPDLC message ERROR, the reason for the error shall be included in the message.

(5) The appropriate ATS authority shall select those message elements contained in PANS-ATM, Appendix 5 that support operations in their airspace. Should an ATS authority choose to select a subset of the message elements, and a received message does not belong to this subset, the ATC unit shall respond by uplinking the message element **MESSAGE NOT SUPPORTED BY THIS ATC UNIT.**

- (a) Only the uplink messages appropriate to a particular control sector's operations shall be provided to the controller.
- (b) When considered necessary by the appropriate ATS authority, additional pre-formatted free text messages shall be made available to the controller for those occasions where the CPDLC message set contained in the PANS-ATM does not provide for specific requirements. In such cases, a list of pre-formatted free text messages shall be established by the appropriate ATS authority, in consultation with operators and other ATS authorities that may be concerned.

- (c) Information concerning CPDLC message element subsets utilized and, if applicable, any additional preformatted free text messages, shall be published in aeronautical information publications.

## **8. Transfer of CPDLC**

(1) When CPDLC is transferred, the transfer of voice communications and CPDLC shall commence concurrently.

(2) When an aircraft is transferred from an ATC unit where CPDLC is available to an ATC unit where CPDLC is not available, CPDLC termination shall commence concurrent with the transfer of voice communications.

(3) When a transfer of CPDLC results in a change of data authority, and there are still messages for which the closure response has not been received (i.e. messages outstanding), the controller transferring the CPDLC shall be informed.

(4) If the controller needs to transfer the aircraft without replying to any downlink message(s) outstanding, the system shall have the capability to automatically send the appropriate closure response message(s). In such cases, the contents of any automatically sent closure response message(s) shall be promulgated in local instructions.

(5) When the controller decides to transfer the aircraft without receiving pilot responses to any uplink message(s) outstanding, the ground system shall have the capability to automatically end the dialogue for each message prior to the transfer.

(6) The controller shall revert to voice communications to clarify any ambiguity associated with the message(s) outstanding.

(7) When a transfer of CPDLC does not result in a change of data authority, and there are still messages outstanding, these messages shall either be forwarded to the appropriate controller or shall be closed in accordance with local instructions and, if necessary, letters of agreement.

## **9. Display of CPDLC messages**

ATC units utilizing a CPDLC message contained in the PANS-ATM shall display the associated text pertaining to that message as presented in the PANS-ATM, Appendix 5.

## **10. Free text messages**

The use of free text messages by controllers or pilots, other than pre-formatted free text messages referred to in paragraph 7 (5) (b), shall be avoided.

## **11. Emergencies, hazards and equipment failure procedures**

(1) When a CPDLC emergency message is received, the controller shall acknowledge receipt of the message by the most efficient means available.

(2) When responding via CPDLC to a report indicating unlawful interference, uplink message ROGER 7500 shall be used.

(3) When responding via CPDLC to all other emergency or urgency messages, uplink message ROGER shall be used.

(4) When a CPDLC message requires a logical acknowledgement and/or an operational response, and such a response is not received, the pilot or controller, as appropriate, shall be alerted.

## **12. Failure of CPDLC**

(1) A CPDLC failure shall be detected in a timely manner.

(2) The controller and pilot shall be alerted to a failure of CPDLC as soon as a failure has been detected.

(3) When a controller or pilot is alerted that CPDLC has failed, and the controller or pilot needs to communicate prior to CPDLC being restored, the controller or pilot shall revert to voice, if possible, and preface the information with the phrase:

## **13. CPDLC FAILURE.**

(1) Controllers having a requirement to transmit information concerning a complete CPDLC ground system failure to all stations



likely to intercept shall preface such a transmission by the general call ALL STATIONS CPDLC FAILURE, followed by the identification of the calling station.

(2) When CPDLC fails and communications revert to voice, all CPDLC messages outstanding shall be considered not delivered and the entire dialogue involving the messages outstanding shall be recommenced by voice.

(3) When CPDLC fails but is restored prior to a need to revert to voice communications, all messages outstanding shall be considered not delivered and the entire dialogue involving the messages outstanding shall be recommenced via CPDLC.

#### **14. Intentional shutdown of CPDLC**

(1) When a system shutdown of the communications network or the CPDLC ground system is planned, a NOTAM shall be published to inform all affected parties of the shutdown period and if necessary, the details of the voice communication frequencies to be used.

(2) Aircraft currently in communication with the ATC unit shall be informed by voice or CPDLC of any imminent loss of CPDLC service.

(3) The controller and pilot shall be provided with the capability to abort CPDLC.

#### **15. Failure of a single CPDLC message**

When a controller or pilot is alerted that a single CPDLC message has failed, the controller or pilot shall take one of the following actions, as appropriate:

- (a) via voice, confirm the actions that will be undertaken with respect to the related dialogue, prefacing the information with the phrase: CPDLC MESSAGE FAILURE;
- (b) via CPDLC, reissue the CPDLC message that failed.

#### **16. Discontinuation of the use of CPDLC pilot requests**

(1) When a controller requires all stations or a specific flight to avoid sending CPDLC requests for a limited period of time, the following

phrase shall be used: ((call sign) or ALL STATIONS) STOP SENDING CPDLC REQUESTS [UNTIL ADVISED] [(reason)]

(2) The resumption of the normal use of CPDLC shall be advised by using the following phrase:

*(call sign) or ALL STATIONS) RESUME NORMAL CPDLC OPERATIONS*

(3) Where the testing of CPDLC with an aircraft could affect the air traffic services being provided to the aircraft, coordination shall be effected prior to such testing.

*Cross References*

Civil Aviation (Aeronautical Information Service) Regulations, 2020  
Civil Aviation (Air Traffic Services) Regulations, 2020

GEN. EDWARD KATUMBA-WAMALA (MP)  
*Minister of Works and Transport.*



