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THE CIVIL AVIATION ACT

(No. 21 of 2013)

THE CIVIL AVIATION (AERONAUTICAL RADIO FREQUENCY SPECTRUM
UTILIZATION) REGULATIONS, 2018

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THE CIVIL AVIATION ACT

(No. 21 of 2013)

IN EXERCISE of powers conferred by section 82 of the Civil Aviation Act, 2013 the Cabinet Secretary for Transport, Infrastructure, Housing and Urban Development makes the following Regulations—

THE CIVIL AVIATION (AERONAUTICAL RADIO FREQUENCY SPECTRUM UTILIZATION) REGULATIONS, 2018

PART I—PRELIMINARY

1. These Regulations may be cited as the Civil Aviation (Aeronautical Radio Frequency Spectrum Utilization) Regulations, 2018. Citation.

2. In these Regulations, unless the context otherwise requires— Interpretation.

“air navigation services” means air traffic services, communication, navigation and surveillance, and aeronautical information services;

“air navigation services facility” means any facility used, available for use, or designed for use in aid of navigation of aircraft, including airports, landing fields, any structures, mechanisms, lights, beacons, marks, communicating systems, or other instruments or devices used or useful as an aid to the safe taking off, navigation, and landing of aircraft and any combination of such facilities;

“air navigation services provider” means an independent entity established for the purpose of operating and managing air navigation services and empowered to manage and use the revenues it generated to cover its costs;

“alternative means of communication” means a means of communication provided with equal status, and in addition to the primary means;

“Authority” means the Kenya Civil Aviation Authority established under section 4 of the Act;

“double channel simplex” means Simplex using two frequency channels, one in each direction.

“duplex” means a method in which telecommunication between two stations can take place in both directions simultaneously;

“frequency channel” means a continuous portion of the frequency spectrum appropriate for a transmission utilizing a specified class of emission;

“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;

“primary means of communication” means the means of communication to be adopted normally by aircraft and ground

stations as a first choice where alternative means of communication exist;

"Provider" means an air navigation services provider;
"simplex" means a method in which telecommunication between two stations takes place in one direction at a time;
"single channel simplex" means a Simplex using the same Frequency Channel in each direction; and
"very high frequency digital link" means a constituent mobile sub-network of the aeronautical telecommunication network, operating in the aeronautical mobile Very High Frequency band. In addition, the very high frequency digital link may provide non-ATN functions such as, for instance, digitized voice.

3. (1) These Regulations shall apply to a person providing Communication, Navigation and Surveillance services within designated air spaces and at aerodromes.

(2) These Regulations shall not apply to a person providing Communication, Navigation and Surveillance Services to state aircraft.

PART II- GENERAL REQUIREMENTS

4. The minimum requirements for planning, installation, commissioning, training, operations and maintenance of the Communication, Navigation and Surveillance facilities shall conform to these Regulations.

5. A person who wishes to provide air navigation services or operate a facility to support an air traffic service shall have an air navigation services provider certificate issued in accordance with the Civil Aviation (Certification of Air Navigation Services Providers) Regulations, 2018.

6. (1) A person shall not provide air navigation services or operate Communication, Navigation and Surveillance facilities or systems in the designated airspace and aerodromes unless the facilities or systems have been approved by the Authority.

Approval Requirement.

(2) A Provider shall notify the Authority of its intention to procure, install, use, decommission, upgrade or relocate any communication, navigation and surveillance facility or facilities in the designated airspace and aerodromes not less than thirty (30) days prior to commencement of the process.

(3) The Authority may approve installation, use, decommissioning, upgrading or relocation of all the communication, navigation and surveillance facility or facilities in the designated airspace and aerodromes.

7. (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 in accordance with these Regulations.

Inspections and Audits.

(2) An inspector of the Authority shall have unrestricted access to the facilities, installations, records and documents of the service provider to determine compliance with these Regulations and

required procedures.

8. (1) A Provider shall—

- (a) establish procedures to ensure that the Communication, Navigation and Surveillance systems—
 - (i) are operated, maintained, available and reliable in accordance with the requirements as may be provided by the Authority;
 - (ii) are designed to meet the applicable operational specification for that facility;
 - (iii) are installed and commissioned as required by the Authority; and
 - (iv) conform to the applicable system characteristics and specification standards provided by the Authority
- (b) determine the site for installation of a new facility based on operational requirements, construction aspects and maintainability.

(2) The facilities in sub-regulation (1) shall be installed by air traffic safety electronics personnel who are fully qualified in air navigation facilities and who have knowledge of the operations, testing, and maintenance of the Communication, Navigation and Surveillance facilities.

9. A Provider shall—

- (a) establish procedures to ensure that each new facility—
 - (i) is commissioned to meet the specifications for that facility; and
 - (ii) is in compliance with applicable standards.
- (b) ensure that the system performance of the new facility has been validated by the necessary tests, and that all parties involved with the operations and maintenance of the facility, including its maintenance contractors have accepted and are satisfied with the results of the tests.
- (c) ensure that procedures include documentation of tests conducted on the facility prior to the commissioning, including those that test the compliance of the facility with the applicable standards and any flight check required.

Siting and
Installation.

Commissioning
requirement .

10. (1) A Provider shall be responsible for the provision of communication, navigation and surveillance services and facilities to ensure that the telecommunication information and data necessary for the safe, regular and efficient operation of air navigation is available.
- (2) The functional specification of each of the Provider's telecommunication services shall include the following values or characteristics for each service —
- (a) availability;
 - (b) reliability;
 - (c) accuracy;
 - (d) integrity;
 - (e) mean time between failure; and
 - (f) mean time to repair.
- (3) The values mentioned in sub-regulation (2) shall be derived or measured from either or both of —
- (a) the configuration of each service; and
 - (b) the known performance of each service.
- (4) A Provider shall describe in the operations manual the method used to calculate each of the values.
- (5) For a radio navigation service, the integrity values or characteristics shall be given for each kind of navigation aid facility that forms part of the service.
 - (6) The performance of technical facilities shall be monitored, reviewed and reported against these Regulations.
 - (7) A Provider shall ensure that a facility is installed with main and standby power supply and adequate air conditioning to ensure continuity of operation appropriate to the service being provided.
11. A Provider shall formalize interface arrangements where applicable with external organizations in the form of service level agreements, detailing the following —
- (a) interface and functional specifications of the support service;
 - (b) service level of the support service such as availability, accuracy, integrity and recovery time of failure of service; and
 - (c) monitoring and reporting of the operational status of the service to the service provider.
12. (1) A Provider shall —
- (a) hold copies of relevant equipment manuals, technical standards, practices, instructions, maintenance procedures, site logbooks, systems backup data, equipment and test gear inventory and any other documentation that are necessary for the provision and operation of the facility;
 - (b) establish a procedure for the control of the documentation required under these regulations;
 - (c) keep records under the control of the relevant key personnel; and
 - (d) control access to the records system to ensure
- Record keeping and documentation.
- Interface arrangements for support services.
- Availability and Reliability of Communication and Navigation and Surveillance facilities.

appropriate security.

(2) A Provider shall ensure that data and voice for air navigation service operational systems are recorded continuously and procedures established for the retention and utilization of these recordings for analysis.

(3) A Provider shall maintain all documents and records which are necessary for the operation and maintenance of the service and make available copies of these documents to personnel where needed.

(4) These documents shall include—

- (a) a copy of these Regulations;
- (b) the Provider's operations manual;
- (c) International Civil Aviation Organization Annex 10 Volumes I to V, International Civil Aviation Organization Doc 8071 - Manual on Testing of Radio Navigation Aids, and other relevant International Civil Aviation Organization documents;
- (d) records of malfunction and safety incident reports;
- (e) records of internal audit reports;
- (f) agreements with other organizations
- (g) records of investigation into serious incidents;
- (h) records of staff deployment, duty and leave rosters;
- (i) records of equipment spares;
- (j) records of job description, training programme and plan of each staff member; and
- (k) all related air navigation service technical standards and technical guidance material developed by the Authority.

(5) A document retained for this regulation shall be retained for at least three (3) years if paper based and one hundred and eighty (180) days if computer based.

(6) The Provider shall establish a process for the authorization and amendment of these documents to ensure that they are constantly updated and ensure that—

- (a) the currency of the documentation can be readily determined;
- (b) amendments to the documentation are controlled in accordance with established quality management principles;
- (c) only current versions of documents are available; and
- (d) the person authorising the creation and any revision is identified.

(7) A Provider shall ensure that where documents are held as computer based records and where paper copies of computer based records are made, they are subjected to the same control as paper documents.

(8) A Provider shall establish procedures to identify, collect, index, store, maintain, and dispose records covering—

- (a) the performance and maintenance history of each facility;
 - (b) the establishment of the periodic test programmes for each facility;
 - (c) each item of test equipment required for the measurement of critical performance parameters;
 - (d) each reported or detected facility malfunction;
 - (e) each internal quality assurance review; and
 - (f) each person who is authorised to place facilities into operational service.
13. (1) A Provider shall develop an operations manual that demonstrates the Provider's compliance with these regulations.
- (2) The contents of the operations manual shall contain—
- (a) the information required of the Provider in accordance with these regulations;
 - (b) an organization chart of the Provider and its maintenance contractors, if any, that shows the position of each personnel and the name, qualification, experience, duties and responsibilities of personnel who are responsible for ensuring the compliance of the organization with the requirements described in these regulations;
 - (c) an overall operation and maintenance plan for the aeronautical telecommunication service, and for each facility, an operation and maintenance plan, as described in these regulations document;
 - (d) for each facility, information on the compliance of the facility with these regulations and the applicable aeronautical telecommunication standards; and
 - (e) the system performance target of each facility, such as its availability and reliability.
- (3) The operations manual shall consist of a main manual covering the main areas that need to be addressed, as well as separate supporting documents and manuals (such as the operation and maintenance plan of each facility) that are referred to in the main manual.
- (4) A Provider shall develop an operation and maintenance plan for each facility which shall include—
- (a) a procedure for the periodic inspection and testing of each facility to verify that it meets the operational and performance specifications of the facility;
 - (b) details of flight test, if necessary, including the standards and procedures to be used and flight test interval, which shall be in compliance with guidelines prescribed by the Authority;
 - (c) the interval between periodic inspections and flight tests and the basis for such intervals and any change in the intervals, the reasons for such change

- shall be documented;
- (d) the operation and maintenance instructions for each facility;
- (e) an analysis of the number of personnel required to operate and maintain each facility taking into account the workload required;
- (f) the corrective plan and procedures for each facility, including such as whether the repair of modules and component are undertaken in-house or by equipment manufacturers; and the spare support for each facility;
- (g) the maintenance plan or the operating and maintenance instructions for each facility shall specify the test equipment requirements for all levels of operation and maintenance undertaken.

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

Periodic
Inspection,
Testing and
Security of
Communication
Navigation and
Surveillance
facilities.

- (2) A Provider shall ensure—
 - (a) that appropriate inspection, measuring and test equipment are available for staff to maintain the operation of each facility.
 - (b) the control, calibration and maintenance of such equipment so that they have the precision and accuracy necessary for the measurements and tests to be performed.
- (3) 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.
- (4) A Provider shall establish a security programme for the communication, navigation and surveillance facility.
- (5) The security programme required under sub regulation (4) shall specify the physical security requirements, practices, and procedures to be followed for the purposes of minimizing the risk of destruction of, damage to, or interference with the operation of communication, navigation and surveillance facility.
- (6) A Provider shall make a test transmission if—
 - (a) the transmission is necessary to test a service, facility or equipment;
 - (b) within a reasonable time before commencing the transmission, the users have been informed

- (c) at the commencement of the transmission, the service provider identifies the transmission, as a test transmission; and
- (d) the transmission contains information identifying it as a test transmission.

(7) A Provider shall ensure that—

- (a) Communication Navigation and Surveillance systems and services are protected against service attacks to a level consistent with the application service requirements;
- (b) all end-systems supporting air navigation security services shall be capable of authenticating the identity of peer end-systems, authenticating the source of messages and ensuring the data integrity of the messages;
- (c) strategies and best practices on the protection of critical information and communications technology systems used for civil aviation purposes are developed and implemented;
- (d) policies are established to ensure that, for critical aviation systems—
 - (i) system architectures are secure by design;
 - (ii) systems are resilient;
 - (iii) methods for data transfer are secured, ensuring integrity and confidentiality of data;
 - (iv) system monitoring, incident detection and reporting methods, are implemented; and
 - (v) forensic analysis of cyber incidents is carried out.

15. A Provider shall—

- (a) ensure that radio navigation aids are available for use by aircraft engaged in air navigation and that the radio navigation aids are subjected to periodic ground and flight inspections;
 - (b) establish a procedure to check and accurately record the operating condition of any communication, navigation and surveillance facility that may have been used by an aircraft that is involved in an accident or incident.
16. A Provider shall—
- (a) establish a procedure for the management and protection of aeronautical radio spectrum;
 - (b) designate a responsible person to control any frequency allocation within the aeronautical radio spectrum to ensure that there will be no conflict and interference to any radio stations or facility;
 - (c) ensure that there is no willful transmission of

Flight Inspection and facility check after accident or incident.

Radio frequency management and interference reporting.

- unnecessary or anonymous radio signals, messages or data by any of its radio stations;
- (d) establish procedures with the communication authority to address occurrence of radio frequency interference;
 - (e) ensure that any frequency interference occurrences are reported, investigated and follow-up actions taken to prevent recurrence;
 - (f) keep updated records of all allocated frequencies; and
 - (g) ensure that no facility providing radio signals for the purpose of aviation safety shall be allowed to continue in operation, if there is a suspicion or any cause to suspect that the information being provided by that facility is erroneous.

17. (1) A Provider shall—

- (a) ensure that it employs sufficient number of personnel who possess the skills and competencies required in the provision of the aeronautical telecommunication service;
- (b) provide in the manual of air navigation services 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;
- (c) develop job descriptions for each of its staff that depict the job purpose, key responsibilities, and outcome to be achieved of each staff;
- (d) develop an overall training policy and programme for the organization that shall lay down;
- (e) designate an officer in charge of training or on-the-job training at the operational stations;
- (f) maintain individual training records for each of its staff;
- (g) conduct a yearly review of the training plan for each staff at the beginning of the year to identify any gaps in competency and changes in training requirement and prioritize the type of training required for the coming year; and
- (h) ensure that the training requirements of these regulations are similarly applied to its maintenance contractors, if any.

Training and
Personnel
Requirements for
Communication,
Navigation and
Surveillance
Personnel.

(2) The on-the-job training officer in sub-regulation (1)(e) above shall have satisfactorily completed the on-the-job training instructional techniques course.

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

- (a) that person has successfully completed training in the performance of that function in line with the

- air traffic safety electronics personnel competency based training requirements;
- (b) a Provider is satisfied that the technical person is competent in performing that function; and
- (c) that person has been certified in accordance with requirements of the relevant Civil Aviation Regulations.
18. (1) A Provider shall establish procedures for the reporting, collection and notification of facility malfunction incidents and safety incidents:
- (2) The procedures in sub-regulation (1) shall be documented in the manual of air navigation services operations.
- (3) A Provider shall compile reports of incidents and review such reports periodically with its maintenance contractors to—
- (a) determine the cause of the incidents and determine any adverse trends;
- (b) implement corrective and preventive actions where necessary to prevent recurrence of the incidents; and
- (c) implement any measures to improve the safety performance of the aeronautical telecommunication service.
- (4) A Provider shall—
- (a) report any serious service failure or safety incident to the Authority and investigate such incidents in order to establish how and why the incident happened, including possible organizational contributing factors and to recommend actions to prevent a recurrence; and
- (b) ensure that information on the operational status of each communication, navigation and surveillance facility that is essential for the enroute, approach, landing, and take-off phases of flight is provided to meet the operational needs of the service being provided.
19. (1) A Provider shall develop proficiency certification programs for air traffic safety electronics personnel engaged in the installation, training, operations and maintenance of Communication, Navigation and Surveillance systems in accordance with relevant Civil Aviation Regulations.
- (2) The Authority shall certify air traffic safety electronics personnel involved in the installation, training, operations and maintenance of Communication, Navigation and Surveillance systems in accordance with the relevant Civil Aviation Regulations.
20. (1) A Provider shall ensure that for safety critical systems, including automated air traffic control systems, the communication systems and instrument landing systems, the commissioning of such systems shall include the conduct of a safety case or equivalent.
- (2) The Authority shall ensure that for safety critical systems, including automated air traffic control systems, the communication systems and instrument landing systems, the commissioning of such systems shall include the conduct of a safety case or equivalent.

Facility malfunction incident and radio interference reporting and operational status of Communication and Navigation and Surveillance systems.

Proficiency certification program.

Safety case, Aeronautical facility status and interruption to service.

(2) A Provider shall ensure that human factors principles are observed in the design, operations and maintenance of aeronautical telecommunication facilities.

(3) A Provider shall, as soon as possible—

(a) forward to the Aeronautical Information Services—

(i) information on the operational details of any new facility for publication in the Aeronautical Information Publication; and

(ii) information concerning any change in the operational status of any existing facility, for the issue of a Notice to Airmen; and

(b) ensure that the information forwarded under subparagraph (a) has been accurately published.

(4) A Provider shall—

(a) establish a procedure to be used in the event of interruption to or when upgrading communication, navigation and surveillance systems;

(b) specify an acceptable recovery time for each service.

PART III— DISTRESS FREQUENCIES

21. All emergency locator transmitters carried in accordance with Civil Aviation (Operations of Aircraft) Regulations, 2018 shall operate on both 406 Megahertz and 121.5 Megahertz.

Frequencies for emergency locator transmitters for search and rescue. Search and rescue frequencies.

22. (1) The frequencies 3 023 kilohertz and 5 680 kilohertz shall be employed where there is a requirement for the use of high frequencies for search and rescue scene of action coordination purposes.

(2) Where specific frequencies are required for communication between rescue coordination centres and aircraft engaged in search and rescue operations, they shall be selected regionally from the appropriate aeronautical mobile frequency bands in light of the nature of the provisions made for the establishment of search and rescue aircraft.

PART IV— UTILIZATION OF FREQUENCIES BELOW 30 MEGAHERTZ

23. In the aeronautical mobile service, single channel Simplex shall be used in radiotelephone communications utilizing radio frequencies below 30 Megahertz in the bands allocated exclusively to the aeronautical mobile (R) service.

Method of operations.

24. Single sideband channels shall be assigned in accordance with provisions contained in the First Schedule and Civil Aviation (Surveillance and Collision Avoidance Systems) Regulations, 2018.

Assignment of single sideband channels.

25. Assignment of frequencies for aeronautical Operational control communications shall be in accordance with the provisions contained in 1.2 of the First Schedule.

26. (1) Non Directional Beacon frequency management shall take into account the following-

- (a) the interference protection required at the edge of the rated coverage;
- (b) the application of the figures shown for typical Automatic Direction Finder equipment;
- (c) the geographical spacings and the respective rated coverages; and
- (d) the possibility of interference from spurious radiation generated by non-aeronautical sources.

(2) To alleviate frequency congestion problems at locations where two separate instrument landing system facilities serve opposite ends of a single runway, the assignment of a common frequency to both of the outer locators and the assignment of a common frequency to both of the inner locators shall be permitted, provided that-

- (a) the operational circumstances permit;
- (b) each locator is assigned a different identification signal; and
- (c) arrangements are made whereby locators using the same frequency cannot radiate simultaneously.

PART V - UTILIZATION OF FREQUENCIES ABOVE 30 MEGAHERTZ

27. The block allotment of the frequency band 117.975 - 137.000 Megahertz shall be as specified in Table I-1 in the Second Schedule.

28. (1) The lowest assignable frequency shall be 118.000 Megahertz and the highest 136.975 Megahertz in the frequency band 117.975 - 137.000 Megahertz.

(2) Requirements for mandatory carriage of equipment specifically designed for 8.33 kilohertz channel spacing shall be made on the basis of regional air navigation agreements which specify the airspace of operation and the implementation timescales for the carriage of equipment, including the appropriate lead time.

General allotment of frequency band - 117.975 - 137.000 Megahertz
Frequency separation limits of assignable frequencies.

Assignment of frequencies for aeronautical Operational control communications.
Non Directional Beacon frequency management.

(3) Requirements for mandatory carriage of equipment specifically designed for very high frequency digital link Mode 2, very high frequency digital link Mode 3 and very high frequency digital link Mode 4 shall be made on the basis of regional air navigation agreements which specify the airspace of operation and the implementation timescales for the carriage of equipment, including the appropriate lead time.

(4) The agreement indicated in sub regulation (4) shall provide at least two years' notice of mandatory carriage of airborne systems.

(5) In regions where 25 kilohertz channel spacing (double sideband amplitude modulation and very high frequency Digital Link) and 8.33 kilo hertz double sideband amplitude modulation channel spacing are in operation, the publication of the assigned frequency or channel of operation shall conform to the channel contained in the Second Schedule Table 1-2.

29. (1) The emergency channel, 121.500 Megahertz, shall be used only for genuine emergency purposes, as outlined in the following—

Frequencies used
for particular
functions.

- (a) to provide a clear channel between aircraft in distress or emergency and a ground station when the normal channels are being utilized for other aircraft;
- (b) to provide a very high frequency communication channel between aircraft and aerodromes, not normally used by international air services, in case of an emergency condition arising;
- (c) to provide a common very high frequency communication channel between aircraft, either civil or military, and between such aircraft, and surface services, involved in common search and rescue operations, prior to changing when necessary to the appropriate frequency;
- (d) to provide air-ground communication with aircraft when airborne equipment failure prevents the use of the regular channels;
- (e) to provide a channel for the operation of emergency locator transmitters, and for communication between survival craft and aircraft engaged in search and rescue operations;
- (f) to provide a common very high frequency channel for communication between civil aircraft and intercepting aircraft or intercept control units and between civil or intercepting aircraft and air traffic services units in the event of interception of the civil aircraft.

(2) The frequency 121.500 Megahertz shall be provided at—

- (a) all area control and flight information centres;

- (b) aerodrome control towers, approach control offices serving international aerodromes and international alternate aerodromes; and
- (c) any additional location designated by the appropriate air transport safety authority, where the provision of that frequency is considered necessary to ensure immediate reception of distress calls or to serve the purposes specified in sub regulation (1).
- (3) The frequency 121.500 Megahertz shall be available to intercept units where considered necessary for the purpose specified in sub regulation (1)(f).
- (4) The emergency channel shall be guarded continuously during the hours of service of the units at which it is installed.
- (5) The emergency channel shall be guarded on a single channel simplex operation basis.
- (6) The emergency channel (121.500 Megahertz) shall be available only with the characteristics as contained in the Civil Aviation (Surveillance and Collision Avoidance Systems) Regulations, 2018.
- (7) An air-to-air very high frequency communications channel on the frequency of 123.450 Megahertz shall be designated to enable aircraft engaged in flights over remote and oceanic areas out of range of very high frequency ground stations to exchange necessary operational information and to facilitate the resolution of operational problems.
- (8) In remote and oceanic areas out of range of very high frequency ground stations, the air-to-air very high frequency communications channel on the frequency 123.450 Megahertz shall be available only with the characteristics as specified in the Civil Aviation (Surveillance and Collision Avoidance Systems) Regulations, 2018.
30. In areas where very high frequency digital link Mode 4 is implemented, the frequencies 136.925 Megahertz and 113.250 Megahertz shall be provided as common signalling channels to the very high frequency digital link Mode 4.
31. (1) Where a requirement is established for the use of a frequency auxiliary to 121.500 Megahertz, as contained in regulation 29(1) (c), the frequency 123.100 Megahertz shall be used.
- (2) The auxiliary search and rescue channel 123.100 Megahertz shall be available only with the characteristics as specified in Civil Aviation (Surveillance and Collision Avoidance Systems) Regulations, 2018.
32. The provisions concerning the deployment of very high frequency frequencies and the avoidance of harmful interference shall be as specified in the Third Schedule.
- Provisions concerning the deployment of very high frequency frequencies and the
- Auxiliary frequencies for search and rescue operations.
- Common signalling channel very high frequency digital link Mode 4.

33. (1) Single channel Simplex operation shall be used in the frequency band 117.975 – 137 Megahertz at all stations providing service for aircraft engaged in international air navigation.

(2) In addition to sub-regulation (1), the ground-to-air voice channel associated with a standard radio navigational aid shall be used, subject to regional agreement, for broadcast or communication purposes or both.

34. (1) The frequencies in the band 117.975 – 137.000 Megahertz for use in the aeronautical mobile (R) service shall be selected from the lists specified in the Fourth Schedule.

(2) Frequencies for operational control communications required to enable aircraft operating agencies meet the obligations contained in the Civil Aviation (Operation of Aircraft) Regulations, 2018 shall be selected from a dedicated band which is determined regionally.

(3) The frequencies allotted for use in the aeronautical mobile (R) service in a particular region shall be limited to the number determined as being necessary for operational needs in the region.

35. The block allotment of the frequency band 108 – 117.975 Megahertz shall be as follows—

- (a) for band 108 – 111.975 Megahertz—
 - (i) instrument landing system in accordance with sub-regulation (2) and the Civil Aviation (Radio Navigation Aids) Regulations, 2018;
 - (ii) very high-frequency omni-directional range provided that—
 - (aa) no harmful adjacent channel interference is caused to instrument landing system;
 - (bb) only frequencies ending in either even tenths or even tenths plus a twentieth of a megahertz are used.
 - (cc) Global Navigation Satellite Systems ground-based augmentation system in accordance with Civil Aviation (Radio Navigation Aids) Regulations, 2018 provided that no harmful interference is caused to Instrument Landing System and very high frequency Omni-directional Range.
- (b) for band 111.975 – 117.975 Megahertz-
 - (i) very high frequency Omni-directional Range;
 - (ii) Global Navigation Satellite Systems ground-based augmentation system in accordance with Civil Aviation (Radio Navigation Aids)

avoidance
of harmful
interference.

Method of
operation.

Plan of assignable
very high
frequency radio
frequencies for
use in the
International
aeronautical
mobile service.

Utilization in the
band 108 – 117.975
Megahertz.

Regulations, 2018 provided that no harmful interference is caused to very high frequency Omni-directional Range.

36. (1) The frequencies for instrument landing system facilities for regional assignment shall be selected in the following order—

- (a) localizer channels ending in odd tenths of a megahertz and their associated glide path channels;
- (b) localizer channels ending in odd tenths plus a twentieth of a megahertz and their associated glide path channels;

(2) Instrument landing system channels identified by localizer frequencies ending in an odd tenth plus one twentieth of a megahertz in the band 108 – 111.975 Megahertz shall be permitted to be utilized on the basis of regional agreement.

(3) For regional assignment planning, the frequencies for very high frequency Omni-directional Range facilities shall be selected in the following order—

- (a) frequencies ending in odd tenths of a megahertz in the band 111.975 – 117.975 Megahertz;
- (b) frequencies ending in even tenths of a megahertz in the band 111.975 – 117.975 Megahertz;
- (c) frequencies ending in even tenths of a megahertz in the band 108 – 111.975 Megahertz;
- (d) frequencies ending in 50 kilohertz in the band 111.975 – 117.975 Megahertz, except as provided in sub-regulation (4);

(e) frequencies ending in even tenths plus a twentieth of a megahertz in the band 108 – 111.975 Megahertz except as provided in sub-regulation (4).

(4) Frequencies for very high frequency Omni-directional Range facilities ending in even tenths plus a twentieth of a megahertz in the band 108 – 111.975 Megahertz and all frequencies ending in 50 kilohertz in the band 111.975 – 117.975 Megahertz shall be permitted to be utilized on the basis of a regional agreement when they have become applicable in accordance with the following—

- (a) in the band 111.975 – 117.975 Megahertz for restricted use;
- (b) for general use in the band 111.975 – 117.975 Megahertz at a date fixed by the Council but at least one year after the approval of the regional agreement concerned;
- (c) for general use in the band 108 – 111.975 Megahertz at a date fixed by the Council but giving a period of two years or more after the approval of the regional agreement concerned.

Regional
assignment
planning.

37. All existing very high frequency Omni-directional Range systems within interference range of a facility utilizing 50 kilohertz channel spacing shall be modified to comply with the provisions of Civil Aviation (Radio Navigation Aids) Regulations, 2018 in order to protect the operation of airborne equipment during the initial stages of deploying very high frequency Omni-directional Range systems utilizing 50 kilohertz channel spacing in an area where the existing facilities do not fully conform to the Civil Aviation (Radio Navigation Aids) Regulations, 2018.

Airborne equipment protection while deploying very high frequency omni-directional Range systems.

38. (1) The geographical separation between facilities operating on the same and adjacent frequencies shall be determined regionally and be based on the following criteria—

Frequency deployment.

- (a) the required functional service radii of the facilities;
- (b) the maximum flight altitude of the aircraft using the facilities; and
- (c) the desirability of keeping the minimum Instrument Flight Region altitude as low as the terrain will permit.

(2) To alleviate frequency congestion problems at locations where two separate Instrument Landing System facilities serve opposite ends of the same runway or different runways at the same airport, the assignment of identical Instrument Landing System localizer and glide path paired frequencies shall be permitted provided that—

- (a) the operational circumstances permit;
- (b) each localizer is assigned a different identification signal; and
- (c) arrangements are made whereby the localizer and glide path not in operational use cannot radiate.

39. (1) Distance Measuring Equipment operating channels bearing the suffix "X" or "Y" as contained in the Civil Aviation (Radio Navigation Aids) Regulations, 2018 shall be chosen on a general basis without restriction.

Utilization in the band 960 – 1 215 Megahertz for Distance Measuring Equipment.

(2) Distance Measuring Equipment channels bearing the suffix "W" or "Z" in the Civil Aviation (Radio Navigation Aids) Regulations, 2018 shall be chosen on the basis of regional agreement when they become applicable.

(3) For regional assignment planning, the channels for Distance Measuring Equipment associated with Instrument Landing Systems shall be selected from Table 5-1 contained in the Fifth Schedule.

40. (1) The Distance Measuring Equipment channels in these groups shall be permitted to be used generally.

Distance Measuring Equipment Channels Groups 1 to 5.

(2) In selecting channels for assignment purposes, when an Distance Measuring Equipment is intended to operate on a runway in association with an Instrument Landing Systems, the Distance Measuring Equipment channel, if possible, shall be selected from Group 1 or 2 and paired with the Instrument Landing Systems frequency as indicated in the Distance Measuring Equipment channelling and pairing table contained in Civil Aviation (Radio

Navigation Aids) Regulations, 2018.

41. These Distance Measuring Equipment channels shall be permitted to be used on the basis of a regional agreement when they have become applicable in accordance with Regulation 39(2).

Distance Measuring Equipment Channels Groups 6 to 10.

PART VI - EXEMPTIONS

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

Requirements for application for exemption.

(2) Unless in case of emergency, a person requiring exemptions from any of these Regulations shall make an application to the Authority at least sixty days prior to the proposed effective date, giving the following information—

- (a) 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; 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 filling the application within the time specified in sub regulation (2) and satisfactory reason 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 fee prescribed by the Authority.

43. (1) The Authority shall review the application for exemption made under regulation 99 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—

Review and publication.

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

(2) Where 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 sub regulation (3).

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

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

Evaluation of the request.

- (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, the decision to grant or deny the request and publish a detailed summary of its evaluation and decision.

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

(4) If the exemption affects a significant population of the aviation community of Kenya, the Authority shall publish the summary in aeronautical information circular.

PART VII— GENERAL PROVISIONS

45. (1) Any 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.

Drug and alcohol testing and reporting.

(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) be denied any licence, certificate, rating, qualification, or authorization 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 authorization issued under these Regulations suspended or revoked.
- (3) Any person who is convicted for the violation of any local or national statute 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) be denied any licence, certificate, rating, qualification, or authorization 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 authorization issued under these Regulations suspended or revoked.
46. (1) A Provider holding of a certificate issued under these Regulations may apply to the Authority for—
- (a) replacement of the certificate if lost or destroyed;
- (b) change of name on the certificate; or
- (c) an endorsement on the certificate.
- (2) When applying under paragraph (1), the holder of a certificate shall submit to the Authority—
- (a) the original certificate or a copy thereof in case of loss; and
- (b) a court order, or other legal document verifying the name change.
- (3) The Authority shall return to the holder of a certificate, with the appropriate changes applied for, if any, the originals specified under paragraph (2) and, where necessary, retain copies thereof.
47. (1) A holder of a Provider certificate issued under these Regulations shall notify the Authority of the change in the physical and mailing address within fourteen days of such change.
- (2) A person who does not notify the Authority of the change in the physical and mailing address within the time frame specified in sub-regulation (1) shall not exercise the privileges of the certificate.
48. A person may apply to the Authority in the prescribed manner for replacement of
- Change of Name.
- Change of address.
- Replacement of

form for replacement of documents issued under these Regulations if such documents are lost or destroyed.

documents.

49. (1) A person shall not—

- (a) use any certificate or exemption issued or required by or under these Regulations which has been 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; or
- (c) lend any certificate or exemption issued or required by or under these Regulations to any other person; or
- (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.
- (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 wilfully omit to make a material entry in such record.

Use and retention of documents and records.

(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 sub-regulation (3) unless he has satisfied himself that all statements in the certificate are correct, and that the applicant is qualified to hold that certificate.

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

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

(7) A person shall not issue any certificate referred to in sub-regulation (3) unless he has satisfied himself that all statements in the certificate are correct, and that the applicant is qualified to hold that certificate.

50. (1) Any person who knows of a violation of the Act, or any Regulations, rules, or orders issued there under, shall report it to the Authority.

Reports of violation.

(2) The Authority may determine the nature and type of investigation or enforcement action that need to be taken.

51. Any person who fails to comply with any direction given to him by the Authority or by any authorised person under any provision of these Regulations shall be deemed for the purposes of

Failure to comply with direction.

Aeronautical fees.	<p>52. (1) The Authority shall notify in writing 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 any orders, notices or proclamations made there under.</p> <p>(2) Upon an application being made in connection with sub-regulation (1), the applicant shall be required, before the application is accepted, to pay the fee so chargeable.</p> <p>(3) If, after that payment has been made, the application is withdrawn by the applicant or otherwise ceases to have effect or is refused, the Authority shall not refund the payment made.</p>
Contravention of Regulations.	<p>53. A person who contravenes any provision of these Regulations may have his certificate or exemption cancelled or suspended.</p> <p>(2) A person who contravenes any provision of these Regulations, orders, notices or proclamations made there under shall, upon conviction, be liable to a fine or imprisonment or both, and in the case of a continuing contravention, each day of the contravention shall constitute a separate offence.</p>
Penalties.	<p>54. (1) Any person who contravenes any provision of these Regulations shall upon conviction be liable to a fine not exceeding one million shillings or to imprisonment for a term not more than six months or to both.</p> <p>(2) If it is proved that an act or omission of any person, which would otherwise have been a contravention by that person, of a provision of these Regulations, orders, notices or proclamations made there under 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.</p>
Appeal.	<p>55. Where any person is aggrieved by any order made under these Regulations the person may, within twenty one days of such order being made, appeal against the order to a National Civil Aviation Administrative Review Tribunal established under the Act.</p>
Transition provisions.	<p>56. (1) Any licence, certificate, permit, approval or authorization issued or granted by the Authority before the commencement of these Regulations shall, unless rendered invalid, continue to be in force to the extent that the terms and conditions thereof are not inconsistent with the provisions of these Regulations or until expiry or are revoked, annulled or replaced.</p> <p>(2) Notwithstanding any other provision of these Regulations, a person who at the commencement of these Regulations, is carrying out any acts, duties or operations affected by these Regulations shall, within one (1) year from the date of commencement, or within such longer time that the Cabinet Secretary may, by notice in the Gazette prescribe, comply with the requirements of these Regulations or cease to carry out such acts, duties or operations.</p>

FIRST SCHEDULE

(r. 24)

- 1.1 Assignment of single sideband channels
- 1.1.1 For the operational use of the channels concerned administrations shall take into account the provisions of 27/19 of Appendix 27 of the International Telecommunication Union Radio Regulations.
- 1.1.2 *The use of aeronautical mobile (R) frequencies below 30 Megahertz for international operations should be coordinated as specified in Appendix S27 of the ITU Radio Regulations as follows:*
- 27/19 The International Civil Aviation Organization co-ordinates radio communications of the aeronautical mobile (R) service with international aeronautical operations and this Organization should be consulted in all appropriate cases in the operational use of the frequencies in the Plan.
- 1.1.3 *Where international operating requirements for high frequency communications cannot be satisfied by the Frequency Allotment Plan at Part 2 of Appendix 27 to the Radio Regulations, an appropriate frequency may be assigned as specified in Appendix 27 by the application of the following provisions:*
- 27/20 It is recognized that not all the sharing possibilities have been exhausted in the Allotment Plan contained in this Appendix. Therefore, in order to satisfy particular operational requirements which are not otherwise met by this Allotment Plan, administrations may assign frequencies from the aeronautical mobile (R) bands in areas other than those to which they are allotted in this Plan. However, the use of the frequencies so assigned must not reduce the protection to the same frequencies in the areas where they are allotted by the Plan below that determined by the application of the procedure defined in Part I, Section II B of this Appendix.
- 27/21 When necessary to satisfy the needs of international air operations administrations may adapt the allotment procedure for the assignment of

- aeronautical mobile (R) frequencies, which assignments shall then be the subject of prior agreement between administrations affected.
- 27/22 The co-ordination described in No. 27/19 shall be effected where appropriate and desirable for the efficient utilization of the frequencies in question, and especially when the procedures of No. 27/21 are unsatisfactory.
- 1.1.4 The use of classes of emission 7B and 9B shall be subject to the following provisions of Appendix 27:
- 27/12 For radiotelephone emissions the audio frequencies will be limited to between 300 and 2 700 Hz and the occupied bandwidth of other authorized emissions will not exceed the upper limit of 3B emissions. In specifying these limits, however, no restriction in their extension is implied in so far as emissions other than 3B are concerned, provided that the limits of unwanted emissions are met (see Nos. 27/73 and 27/74).
- 27/14 On account of the possibility of interference, a given channel should not be used in the same allotment area for radiotelephony and data transmissions.
- 27/15 The use of channels derived from the frequencies indicated in 27/18 for the various classes of emissions other than 3B and H2B will be subject to special arrangements by the administrations concerned and affected in order to avoid harmful interference which may result from the simultaneous use of the same channel for several classes of emission.
- 1.2.1 Assignment of frequencies for aeronautical Operational control communications for aeronautical Operational control communications are required to enable aircraft operating agencies to meet the obligations contained in Civil Aviation (Operations of Aircraft) Regulations. Assignment of these frequencies shall be in accordance with the following provisions of Appendix 27:
- 27/9 A world-wide allotment area is one in which frequencies are allotted to provide long distance communications between an aeronautical station within that allotment area and aircraft operating anywhere in the world.*
- 27/17 The world-wide frequency allotments appearing in the tables at No. 27/213 and Nos. 27/218 to 27/231, except for carrier (reference) frequencies 3 023 kilohertz and 5 680 kilohertz, are reserved for assignment by administrations to stations operating under authority granted by the administration concerned for the purpose of serving one or more aircraft operating agencies. Such assignments are to provide communications between an appropriate aeronautical station and an aircraft station anywhere in the world for exercising control over regularity of flight and for safety of aircraft. World-wide frequencies are not to be assigned by administrations for major world air route area, regional and domestic air route area and meteorological information for aircraft in flight purposes. Where the operational area of an aircraft lies wholly within a regional and domestic air route area or sub-regional and domestic air route area boundary, frequencies allotted to those regional and domestic air route areas and sub-regional and domestic air route areas shall be used.

SECOND SCHEDULE

(r. 27)

	Block allotment frequencies (Megahertz)	Worldwide utilization	Remarks
a)	118.000 – 121.450 inclusive	International and National Aeronautical Mobile Services	Specific international allotments will be determined in the light of regional agreement.
b)	121.500	Emergency frequency	In order to provide a guard band for the protection of the aeronautical emergency frequency, the nearest assignable frequencies on either side of 121.500 Megahertz are 121.450 Megahertz and 121.550 Megahertz.
c)	121.550 – 121.9917 inclusive	International and National Aeronautical Mobile Services	Reserved for ground movement, pre-flight checking, air traffic services, clearances, and associated operations.
d)	122.000 – 123.050 inclusive	National Aeronautical Mobile Services	Reserved for national allotments.
e)	123.100	Auxiliary frequency SAR	In order to provide a guard band for the protection of the aeronautical auxiliary frequency, the nearest assignable frequencies on either side of 123.100 Megahertz are 123.050 Megahertz and 123.150 Megahertz.
f)	123.150 – 123.6917 inclusive	National Aeronautical Mobile Services	123.450 Megahertz which is also used as an air-to-air communications channel (see g))
g)	123.450	Air-to-air communications	Designated for use as provided under these Regulations
h)	123.700 – 129.6917 inclusive	International and National Aeronautical Mobile Services	Specific international allotments will be determined in light of regional agreement
i)	129.700 – 130.8917 inclusive	National Aeronautical Mobile Services	Reserved for national allotments but may be used in whole or in part, subject to regional agreement.
j)	130.900 – 136.875 inclusive	International and National Aeronautical Mobile Services	Specific international allotments will be determined in light of regional agreement.
k)	136.900 – 136.975 inclusive	International and National Aeronautical Mobile Services	Reserved for very high frequency air-ground data link communications.

I.1 Table 1-1: Allotment table

Frequency (Megahertz)	Time slot	Channel Spacing (Megahertz)	Channel
118.0000		25	118.000
118.0000	A	25	118.001
118.0000	B	25	118.002
118.0000	C	25	118.003
118.0000	D	25	118.004
118.0000		8.33	118.005
118.0083		8.33	118.010
118.0167		8.33	118.015
118.0250	A	25	118.021
118.0250	B	25	118.022
118.0250	C	25	118.023
118.0250	D	25	118.024
118.0250		25	118.025
118.0250		8.33	118.030
118.0333		8.33	118.035
118.0417		8.33	118.040
118.0500		25	118.050
118.0500	A	25	118.051
118.0500	B	25	118.052
118.0500	C	25	118.053
118.0500	D	25	118.054

I.2 Table 1-2 : Channeling/frequency pairing (Regulation 28 (6))

118.0500		8.33	118.055
118.0583		8.33	118.060
118.0667		8.33	118.065
118.0750	A	25	118.071
118.0750	B	25	118.072
118.0750	C	25	118.073
118.0750	D	25	118.074
118.0750		25	118.075
118.0750		8.33	118.080
118.0833		8.33	118.085
118.0917		8.33	118.090
118.1000		25	118.100

THIRD SCHEDULE

(r. 32)

- 1.1 Provisions concerning the deployment of very high frequency frequencies and the avoidance of harmful interference
- 1.1.1 The geographical separation between facilities operating on the same frequency shall, except where there is an operational requirement for the use of common frequencies for groups of facilities, be such that the protected service volume of one facility is separated from the protected service volume of another facility by a separation to provide a desired signal ratio of 20 dB or by a separation to provide a desired signal ratio of 14 dB or by a separation distance not less than the sum of the distances to the associated radio horizon of each service volume, whichever is smaller. This provision shall be implemented on the basis of a regional air navigation agreement.
- 1.1.2 For areas where frequency assignment congestion is severe or is anticipated to become severe, the geographical separation between facilities operating on the same frequency shall, except where there is an operational requirement for the use of common frequencies for groups of facilities, be such that the protected service volume of one facility is separated from the protected service volume of another facility by a separation to provide a desired signal ratio of 14 dB or by a separation distance not less than the sum of the distances to the associated radio horizon of each service volume, whichever is smaller. This provision shall be implemented on the basis of a regional air navigation agreement.
- 1.1.3 The application of the minimum separation distance based on the sum of the radio horizon distance of each facility assumes that it is highly unlikely that two aircraft will be at the closest points between and at the maximum altitude of the protected service volume of each facility.
- 1.1.4 The distance to the radio horizon from a station in an aircraft is normally given by the formula:

$$D = K \sqrt{h}$$
 where D = distance in nautical miles;
 h = height of the aircraft station above earth;
 K = (corresponding to an effective earth's radius of 4/3 of the actual radius);
 = 2.22 when h is expressed in metres; and
 = 1.23 when h is expressed in feet.
- 1.1.5 In calculating the radio line-of-sight distance between a ground station and an aircraft station, the distance from the radio horizon of the aircraft station computed from Note 3 must be added to the distance from the radio horizon of the ground station. In calculating the latter, the same formula is employed, taking for h the height of the ground station transmitting antenna.
- 1.1.6 The geographical separation between facilities operating on adjacent channels shall be such that points at the edge of the protected service volume of each facility are separated by a distance sufficient to ensure operations free from harmful interference.

- 1.1.7 The protection height shall be a height above a specified datum associated with a particular facility, such that below it harmful interference is improbable.
- 1.1.8 The protection height to be applied to functions or to specific facilities shall be determined regionally, taking into consideration the following factors:
- a) the nature of the service to be provided;
 - b) the air traffic pattern involved;
 - c) the distribution of communication traffic;
 - d) the availability of frequency channels in airborne equipment;
 - e) probable future developments.
- 1.1.9 Where the protected service volume is less than operationally desirable, separation between facilities operating on the same frequency should not be less than that necessary to ensure that an aircraft at the upper edge of the operational service volume of one facility does not come above the radio horizon with respect to emissions belonging to the service of adjacent facilities.
- 1.1.10 The effect of this recommendation is to establish a geographical separation distance below which harmful interference is probable.
- 1.1.11 The geographical separation between very high frequency VOLMET stations shall be determined regionally and shall be such that operations free from harmful interference are secured throughout the protected service volume of each VOLMET station.
- 1.1.12 In the frequency band 117.975 – 137.000 Megahertz, the frequencies used for National Aeronautical Mobile Services, unless worldwide or regionally allotted to this specific purpose, shall be so deployed that no harmful interference is caused to facilities in the International Aeronautical Mobile Services.
- 1.1.13 The problem of inter-State interference shall be resolved by consultation between the States concerned.
- 1.1.14 The communication coverage provided by a very high frequency ground transmitter shall, in order to avoid harmful interference to other stations, be kept to the minimum consistent with the operational requirement for the function.

FOURTH SCHEDULE

(r. 34)

ASSIGNABLE FREQUENCIES

- 1.1 List of assignable frequencies shall be:
- 1.1.1 List A – assignable frequencies in regions or areas where 25 kilohertz frequency assignments are deployed
- 118,000-121,450 Megahertz in 25 Kilohertz steps
121,550-123,050 Megahertz in 25 Kilohertz steps
123,150-136,975 Megahertz in 25 Kilohertz steps
- 1.1.2 List B – assignable frequencies in regions or areas where 8.33 kilohertz frequency assignments are deployed
- 118,000 – 121,450 Megahertz in 8.33 kilohertz steps
121,550 – 123,050 Megahertz in 8.33 kilohertz steps

FIFTH SCHEDULE

(r. 39(3))

Channels for distance measuring equipment associated with instrument landing system and very high-frequency omni-directional range

1.1 Table 1-1: Channels for DME associated with instrument landing system/very high-frequency omni-directional range

Group	DME channels	Associated paired very high frequency channels	Remarks	Assignment procedure
1	EVEN 18X to 56X	Instrument landing system 100 kilohertz spacings		For general use
2	EVEN 18Y to 56Y	Instrument landing system 50 kilohertz spacings		For general use
3	EVEN 80Y to 118Y	very high-frequency omni directional range 50 kilohertz spacings Odd tenths of a Megahertz		For general use
4	ODD 17Y to 55Y	very high-frequency omni-directional range 50 kilohertz spacings		For general use
5	ODD 81Y to 119Y	very high-frequency omni-directional range 50kilohert		For general use

	Even tenths of a Megahertz				
6	No associated paired very high frequency channel		EVEN 18W to 56W		For later use
7	No associated paired very high frequency channel		EVEN 18Z to 56Z		For later use
8	No associated paired very high frequency channel		EVEN 80Z to 118Z		For later use
9	No associated paired very high frequency channel		ODD 17Z to 55Z		For later use
10	No associated paired very high frequency channel		ODD 81Z to 119Z		For later use

Dated the 18th June, 2018.

JAMES MACHARIA,
Cabinet Secretary,
Ministry of Transport, Infrastructure, Housing and Urban Development.