Unofficial translation

Aviation rules of the Kyrgyz Republic "APKR-6. Part I. Commercial Air Transport. Aircraft. Aircraft Operation"

REGISTRATION SHEET OF CHANGES AND ADDITIONS

No.	Date of adoption	Effective Date	Act of acceptance of amendments and/or additions	Date of amendment and/or addition to this copy	Signature of the person who made the change and/or addition to this copy

Note: Records of the date of amendments and additions to this copy and the signature of the person who made the amendment to this copy are related to the holder of these Rules.

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1. Abbreviations and symbols

§ 1. Abbreviations

APCR – Aviation Rules of the Kyrgyz Republic
ASUP – automatic flight control system
BCAS – Airborne Collision Avoidance System
VTL – vertical takeoff and landing
VMC – visual meteorological conditions
APU – auxiliary power unit
hPa – hectopascal
d. Hg – inches of mercury
TAS – true airspeed
IGS – indicated terrestrial speed
INS – inertial navigation system
CAT. I – category I
CAT. II – category II
CAT. III – category III
PIC – aircraft commander
kg – kilogram
kg/m2 – kilogram per square meter
km – kilometer
km/h – kilometer per hour
m – meter
mbar – millibar
m/s – meter per second
m/s2 – meter per second squared
MHz – megahertz
n. mile – nautical mile
H – Newton
ATS – air traffic services
ATM – air traffic management
VFR – visual flight rules
IMC – instrument meteorological conditions
IFR – instrument flight rules
RDPW – available takeoff rejection distance
RLE – Flight Operation Manual
RPD – available landing distance
cm – centimeter
ATC - Air Traffic Control
uz – knot
kts/s – knots per second
fpm – feet per minute
FM – frequency modulation
EP – flight level

AC – alternating current
ADRS – Airborne Data Recording System
ADS – Automatic Dependent Surveillance
ADS-C – contract automatic dependent surveillance
AEO - all good engines
AGA – airfields, air routes and ground facilities
AIG - Aviation Accident Investigation and Prevention
AIR – Airborne Visual Situation Recorder
AIRS – Airborne Visual Situation Recording System
AOC – Air Operator Certificate
APCH – approach to landing
AR – sanctioned
ARINC – Aeronautical Radio Incorporated
ASE – altitude measurement system error
ASIA/PAC – Asia/Pacific region
ATN – Aeronautical Telecommunications Network
CARS – cockpit audio recording system
CDL – Configuration Deviation List
CFIT – Collision of a serviceable aircraft into the ground
COMAT – operator materials
CPDLC – controller-pilot data link communication
CRM – Crew Resource Management
CVR – cockpit voice recorder
CVS – combined visualization system
DA – absolute decision-making height
DA/H – absolute/relative decision-making height
DC – direct current
D-FIS – Data Link Flight Information Service
DH – relative decision height
DLR – Data Line Recorder
DLRS – Data Line Registration System
DME – rangefinding equipment
DSTRK – specified path line
EDTO – extended diversion time operations
EFB – Electronic Flight Bag
EFIS – Electronic Flight Instrument System of an aircraft
EGT – exhaust gas temperature
ELT – Emergency Locator Transmitter
ELT(AD) – Automatically Deployable ELT
ELT(AF) – Automatic Stationary ELT
ELT(AP) – Automatic Portable ELT
ELT(S) – Emergency and Rescue ELT
EPR – Engine Pressure Ratio
EUROCAE – European Organisation for Civil Aviation Equipment
EVS – machine vision system with advanced visualization capabilities

FANS – Future Air Navigation Systems
FDAP – Flight Data Analysis Program
FDR – Flight Data Recorder
FFS is a fully functional summer simulator with a moving platform.
FSTD – Flight Simulation Device
g – normal acceleration
GCAS – Ground Collision Avoidance System
GNSS – Global Navigation Satellite System
GPWS – Ground Proximity Warning System
HUD – Head-up Display
ILS – Instrument Landing System
ISA – International Standard Atmosphere
lb – pound
lbf – pound force
LED – light-emitting diode
LPC – Linear Proficiency Testing
MDA – minimum descent altitude
MDA/H – minimum absolute/relative descent altitude
MDH – minimum descent height
MEL – minimum equipment list
MLS – Microwave Landing System
MMEL – Standard Minimum Equipment List
MNPS – Minimum Navigation Performance Requirements
MOPS – Minimum Operational Performance Standards
N1 – number of revolutions of the rotor of the low-pressure compressor (two-stage compressor); number
fan speed (three-stage compressor)
N2 – number of revolutions of the rotor of the high-pressure compressor (two-stage compressor); number
intermediate pressure compressor rotor speed (three-stage compressor)
N3 – number of revolutions of the high-pressure compressor (three-stage compressor)
NAV – navigation
NVIS – Night Vision System
OSA – absolute obstacle clearance height
OSA/N – absolute/relative obstacle clearance height
OSN – relative height of obstacle clearance
OEI - One Engine Inoperative
OPC – Operational Proficiency Testing
PANS – Procedures for Air Navigation Services
PBC – Performance Based Communication
PBN – Feature Based Navigation
PBS – performance-based observation
RCP – type of required communication characteristics
RNAV – area navigation

RNP – required navigation performance
RSP – required surveillance characteristics
RTCA – Radio Technical Commission for Aviation
RVR – runway visual range
RVSM – Reduced Vertical Separation Minimum
SOP – standard operating rules
SST – Supersonic Air Transport
STOL – short takeoff and landing
SVS – Synthetic Visualization System
TAS – true airspeed
TAWS – Terrain Proximity Warning System
TCAS – Traffic and Collision Avoidance Awareness System
TLA – Engine Lever Angle
TLS – Target Level of Flight Safety
TVE – total elevation error
UTC – Coordinated Universal Time
VD – estimated dive speed
VMS – minimum evolutionary speed with critical engine inoperative
VOR – VHF Omnidirectional Radio Beacon
VS0 – stall speed or minimum speed for steady flight in landing configuration
VS1 – stall speed or minimum steady-state speed in the specified configuration
VTOL – vertical takeoff and landing
WXR - weather conditions

§ 2. Conventional designations

°C - degrees Celsius
% - percent

Chapter 1. Definitions

1. When the following terms are used, they have the following meanings:

Absolute Decision Altitude (DA) or Relative Decision Altitude (DA) –the established absolute or relative altitude during a three-dimensional (3D) approach at which a go-around is initiated if sufficient visual contact with reference points has not been established to continue the approach.

Absolute decision height (DA)is measured from the mean sea level, and the relative decision height (DH) is measured from the runway threshold elevation.

"Necessary visual contact with landmarks"means the visibility of a portion of the visual aids or approach area for a time sufficient for the pilot to assess the aircraft's position and its rate of change relative to the nominal flight path. For CAT III flights using decision height, the required visual contact with references consists of following the procedures specified for the specific flight rules and conditions. In the case of a circling approach, visual contact with references in the runway area is required.

In cases where both concepts are used, the form "absolute/relative decision height" and the abbreviation "DA/H" may be used for convenience.

Obstacle Clearance Altitude (OCA) or Obstacle Clearance Height (OCH). The minimum altitude or minimum height above the relevant runway threshold elevation or, where applicable, the aerodrome elevation used to ensure that the relevant obstacle clearance criteria are met.

The absolute obstacle clearance height is measured from mean sea level, and the obstacle clearance height is measured from the runway threshold elevation or, in the case of non-precision approach procedures, from the aerodrome elevation or the runway threshold elevation if its elevation is more than 2 metres (7 ft) less than the aerodrome elevation. The obstacle clearance height for a circling approach procedure is measured from the aerodrome elevation.

In cases where both concepts are used, for convenience the form "obstacle clearance height" and the abbreviation "OCA/H" may be used.

Emergency Locator Transmitter (ELT) –a general term used for equipment that transmits distinctive signals on predetermined frequencies and, depending on the application, may be triggered automatically by a shock or manually actuated. An ELT may be one of the following types:

Automatic Stationary ELT (ELT(AF)) –an automatically triggered ELT permanently installed on board an aircraft.

Automatic Portable ELT (ELT(AP)) –an automatically triggered ELT that is permanently attached to an aircraft but is easily removable from that aircraft.

Automatically Deployable ELT (ELT(AD)) –An ELT that is permanently attached to an aircraft and deploys automatically and is triggered by impact and, in some cases, is also triggered by hydrostatic sensors. Manual deployment is also possible.

Emergency Rescue ELT (ELT(S)) –The ELT, which is removed from the aircraft, is positioned so that it can be easily used in an emergency and is manually activated by survivors.

Aviation special works –flights of aircraft, gliders, hang gliders, balloons and other flying machines which are used to provide specialized services in such fields as agriculture, construction, photography, surveying, aerial advertising, surveillance and patrolling, search and rescue, aerial reporting, parachute jumping, external sling cargo transportation and other similar services.

Automatically Releaseable Flight Recorder (ADFR) –a flight recorder installed on an aircraft that is capable of automatically separating from the aircraft.

Flight data analysis –the process of analyzing recorded flight data to improve flight safety.

Human Factors Aspects –principles applicable to aviation design, certification, training, operational and maintenance processes aimed at ensuring safe interaction between humans and other system components through appropriate consideration of human performance.

Aerodrome-a specific area of land or water surface (including any buildings, structures and equipment) intended in whole or in part for the arrival, departure and movement of aircraft on this surface.

Base aircraft-an aircraft with the minimum set of equipment necessary to perform take-off, approach and landing under expected conditions.

Barometric altitude –atmospheric pressure expressed in units of absolute altitude corresponding to this pressure in standard atmospheres.

Safe forced landing -an unavoidable landing or emergency ditching in which it can be reasonably expected that no injury will occur to persons in the aircraft or on the surface.

Flight recorder -any recording instrument installed on board an aircraft as an additional source of information for conducting an investigation of an aviation accident/incident.

Visual meteorological conditions (VMC) –meteorological conditions expressed in terms of visibility, distance to clouds and height of the cloud base corresponding to or exceeding established minima. The established minima are contained in Chapter 3 of APCR-2.

Aircraft -any aircraft that is supported in the atmosphere by its interaction with the air, excluding interaction with air reflected from the earth's or water's surface.

Aircraft with advanced capabilities-an aircraft with equipment additional to that required by the parent aircraft to perform a specific take-off, approach or landing.

Human capabilities –human abilities and limitations that affect the safety and efficiency of aviation activities.

Rest time –a continuous and specified period of time after and/or before the period of duty during which members of the flight or cabin crew are relieved from all official duties.

Flight time –see flight time.

State of the airport –the state on whose territory the airfield is located.

State of registration –the state in whose register the aircraft is entered.

State of the operator –the State in which the operator's principal place of business is situated or, if the operator has no such place of business, the operator's permanent residence.

Runway visual range (RVR) –the distance within which the pilot of an aircraft on the runway centre line can see runway surface markings or lights that limit the runway or indicate its centre line.

Engine -a device used or intended to be used for the purpose of propelling an aircraft. It includes at least those components and equipment necessary for operation and control, but does not include the propeller/rotors (if applicable).

Contaminated runway-A runway is contaminated when a significant proportion of the runway surface area (consisting of isolated or non-isolated areas) within the usable length and width is covered with one or more substances mentioned in the list of runway surface condition descriptors.

Note. Additional information on runway surface condition descriptors is contained in APKR-14 Chapter 1. General requirements for aerodromes §1. Terms and definitions.

Alternate airfield -an aerodrome to which an aircraft may proceed if it is impossible or inadvisable to proceed to or land at the aerodrome of intended landing, which has the necessary types and means of services corresponding to the technical characteristics of the aircraft and which is in working order at the expected time of use. The following aerodromes are considered alternate:

Alternate airfield during takeoff –an alternate airfield at which an aircraft can land if this becomes necessary shortly after take-off and it is not possible to use the departure airfield.

Alternate airfield on the route –an alternate airfield at which an aircraft can land if, during a flight en route, it becomes necessary to divert to an alternate airfield.

Alternate airfield of destination –an alternate airfield at which an aircraft can land if it is impossible or impractical to land at the intended landing airfield.

Note: The aerodrome from which an aircraft departs may also be an en-route alternate or destination alternate for that aircraft.

Instrument approaches –an approach or landing using navigation guidance instruments based on an instrument approach procedure. There are two methods of performing an instrument approach:

a) two-dimensional (2D) instrument approach using lateral navigation guidance only;

b) three-dimensional (3D) instrument approach using both lateral and vertical navigation guidance.

Lateral and vertical navigation guidance is guidance provided by either:

a) a ground-based radio navigation aid, or

b) computer-generated navigation data from ground-based, satellite, autonomous navigation equipment or a complex of these equipment.

Continuous Descent Final Approach (CDFA) –A technique compatible with steady-state approach procedures for the final approach segment (FAS) of a non-precision instrument approach (NPA) procedure flown in continuous descent, without in-flight flaring, from an altitude/height equal to or higher than the final

approach fix altitude/height to a point approximately 15 metres (50 ft) above the runway landing threshold or to the point where the landing flare manoeuvre commences for the aircraft type, on a FAS of an NPA procedure followed by a circling approach, the CDFA technique shall be applied until the circling approach minimum (OCA/H) or visual in-flight manoeuvre altitude/height is reached.

Area Navigation (RNAV) –a navigation method that enables aircraft to fly any desired path within the coverage of terrestrial or satellite navigation aids or within the limits determined by the capabilities of autonomous aids, or a combination of both. Area navigation includes performance-based navigation as well as other types of operations that do not fall within the definition of performance-based navigation.

Isolated airfield -a destination aerodrome for which there is no alternate destination aerodrome suitable for the type of aircraft in question.

Head-up display (HUD) –an indication system that displays flight data against the background of the outside of the cockpit in the pilot's field of view in the direction of flight.

Aircraft commander –a pilot designated by the operator or, in the case of general aviation, the owner of an aircraft to act as captain and to be responsible for the safe conduct of the flight.

Combined Visual System (CVS) –a system for displaying images obtained from an enhanced vision system (EVS) and a synthesized visualization system (SVS).

Commercial Air Transport –a flight of an aircraft for the carriage of passengers, cargo or mail for remuneration or hire.

Final Approach Segment (FAS) –the section of an instrument approach within which the aircraft enters the runway alignment and descends for landing.

Brief description of the agreement-a document annexed to an agreement registered with the Council of ICAO under Article 83 bis of the Convention, which briefly and clearly defines the functions and responsibilities transferred by the State of Registry to another State.

Note: The other State referred to in the definition above is the State of the operator of the commercial air transport service..

Cruising echelon –a flight level maintained for a significant portion of the flight.

Critical EDTO System –an aircraft system, the failure or degradation of which could seriously affect the safety of EDTO operations in particular or the continuity of which is particularly critical to ensuring the safe flight and landing of the aircraft during its EDTO operation.

Note: The term "ETOPS" was used prior to the adoption of the term "EDTO" by ICAO. Therefore, the terms "ETOPS" and "EDTO" will mean the same thing until the term "ETOPS" is discontinued.

Critical Fuel Reserve for EDTO Flights –the amount of fuel required to fly to an alternate airport on the route, taking into account the failure of the most time-limited system at the most critical point on the route.

Large aircraft -an aircraft with a maximum certified take-off weight in excess of 5,700 kg.

Flight Manual –a manual relating to the certificate of airworthiness (Certificate of Airworthiness) and containing the limitations within which an aircraft is considered airworthy and the instructions and information necessary for flight crew members to ensure the safe operation of the aircraft.

Maximum time to divert to an alternate airfield –the maximum permissible distance, expressed in flight time, from any point en route to an en route alternate airport.

Maximum weight –Maximum certified take-off weight.

Minimum Descent Altitude (MDA) or Minimum Descent Height (MDH) –an absolute or relative altitude specified in a two-dimensional (2D) instrument approach procedure or a circling approach procedure below which descent is not made without the necessary visual contact with reference points.

Minimum Descent Altitude (MDA)is measured from mean sea level, and the minimum descent height (MDH) is measured from the aerodrome elevation or the runway threshold elevation if its elevation is more than 2 metres (7 ft) less than the aerodrome elevation. The minimum descent height for a circling approach is measured from the aerodrome elevation.

Note. "Required visual reference" means the visibility of a portion of the visual aids or approach area for a time sufficient for the pilot to assess the aircraft's position and its rate of change relative to the nominal flight path. In the case of a circling approach, visual reference in the runway area is required.

In cases where both concepts are used, for convenience the form "minimum descent altitude/height" and the abbreviation "MDA/H" may be used.

Minimum Equipment List (MEL) –a list providing for the operation of an aircraft under certain conditions in the event of failure of a specific equipment component, which is compiled by the operator in accordance with the MMEL for the given aircraft type or more stringent requirements.

Modification-change in the design of an aircraft type, engine or propeller.

A modification may also include performing a modification that is a maintenance task required by a maintenance certificate.

Wet runway-the surface of a runway covered by any visible layer of moisture or water up to and including 3 mm deep, within the area intended for use.

Performance-based Surveillance (PBS) –surveillance based on requirements and performance applicable to the provision of air traffic services. Required Surveillance Performance (RSP) includes surveillance performance requirements related to system components in terms of surveillance support and associated data transfer time, continuity, availability, integrity, surveillance data accuracy, security and functionality necessary to support the proposed operation in the context of a specific airspace concept.

Feature Based Navigation (PBN) –area navigation based on the performance requirements of aircraft operating on an ATS route, on an instrument approach procedure or in a designated airspace. The performance requirements are defined in navigation specifications (RNAV specification, RNP specification) in the form of

accuracy, integrity, continuity, availability and functionality necessary to carry out the intended flight in the context of a specific airspace concept.

Navigation specification –a set of requirements for an aircraft and flight crew necessary to ensure performance-based navigation within a designated airspace. There are two types of navigation specifications:

Required Navigation Performance (RNP) Specification –a navigation specification based on area navigation that includes a requirement for monitoring and warning of non-compliance with characteristics designated by the RNP prefix, such as RNP 4, RNP APCH;

Area Navigation (RNAV) Specification –a navigation specification based on area navigation that does not include a requirement for monitoring and alerting of performance identified by the RNAV prefix, e.g. RNAV 5, RNAV 1;

Note. The term RNP, previously defined as "the set of navigation performance necessary for operations within a designated airspace", was removed from Annex 6 to the Convention on International Civil Aviation as the PBN concept had become dominant over the RNP concept. It is now used exclusively in the context of navigation specifications that include a requirement for performance monitoring and alerting, e.g. RNP 4 refers to an aircraft and its operational requirements including a requirement for lateral path-keeping performance to within 4 NM with on-board performance monitoring and alerting.

Ground handling –services necessary for the arrival of an aircraft at an airport and its departure from an airport, other than air traffic services.

Small plane -an aircraft that has a maximum certified takeoff weight of 5,700 kilograms or less.

Night -the period of time between the end of evening civil twilight and the beginning of morning civil twilight or such other period between sunset and sunrise as may be prescribed by the appropriate authority.

Civil twilight ends in the evening when the center of the solar disk is 6 degrees below the horizon, and begins in the morning when the center of the solar disk is 6 degrees below the horizon.

Air Traffic Services (ATS) –a general term meaning, where appropriate, flight information service, alerting, air traffic advisory service, air traffic control service (area control service, approach control service or aerodrome control service).

Civil Aviation Authority– an authorized state body that carries out state regulation and supervision in the field of civil aviation of the Kyrgyz Republic.

Dangerous goods –products or substances that are capable of posing a threat to health, safety, property or the environment and that are listed in the List of Dangerous Goods contained in the Technical Instructions or that are classified in accordance with these Instructions. Dangerous goods are classified in Chapter 3 of APKR-18.

Configuration Deviation List (CDL) –a list prepared by the organization responsible for the type design, approved by the State of Design, identifying all external parts of a type aircraft that may be missing at the start of flight and containing, where appropriate, any information on relevant operating limitations and performance changes.

Conversion Course –This is a training program designed to prepare aviation personnel (pilots, flight attendants, technical personnel) to operate a new type of aircraft, transfer to a new airline, or adapt to new operational requirements.

Flight plan –specific information about the intended flight or portion of a flight of an aircraft.

Note: The term "flight plan" may be preceded by the words "preliminary", "filed", "current", or "operating" to indicate conditions and various phases of flight.

When the word "message" is used before this term, it refers to the content and format of the flight plan data being transmitted.

Preliminary Flight Plan (PFP)-flight information submitted by the operator or designated representative to conduct joint flight planning prior to the filing of the flight plan.

Filed Flight Plan (FPL or eFPL)-the last flight plan filed by the pilot, the operator or his authorized representative for use by ATS units.

Note: FPL means a filed flight plan exchanged using the aeronautical fixed service, while eFPL means a filed flight plan exchanged using the Flight and Flow Services: Information for Collaborative Airspace (FF-ICE). eFPL allows for the exchange of additional information that is not contained in the FPL.

Altitude Measurement System Error (ASE) –the difference between the absolute altitude on the altimeter indicator, given the correct barometric pressure setting on the altimeter, and the barometric altitude corresponding to the undisturbed ambient pressure.

Maintaining airworthiness –a set of measures by which an aircraft, engine, propeller or part is ensured to comply with current airworthiness requirements and to be maintained in a condition necessary for safe operation throughout its operational life.

General aviation aircraft flight –a flight of an aircraft other than a commercial air transport operation or a flight associated with the performance of special aerial work.

Flight time, flight time: planes –the total time from the moment an aircraft begins to move for the purpose of takeoff until the moment it comes to rest at the end of the flight.

Note: The above term "flight time; flight time" is synonymous with the generally accepted terms "total flight time" or "chock time", which is measured from the time the aircraft begins to move for the purpose of takeoff until the time it comes to a complete stop at the end of the flight.

Low Visibility Operations (LVO)-approach at RVR values less than 550 m and/or at DH values less than 60 m (200 ft) or take-off at RVR values less than 400 m.

Threshold time –a distance specified by the Civil Aviation Authority, expressed in flight time, to an en-route alternate aerodrome, any exceeding which requires special approval of the EDTO flight by the Civil Aviation Authority.

Instrument meteorological conditions (IMC) –meteorological conditions expressed in terms of visibility, cloud cover, and cloud base. These values are less than the minimums established for visual meteorological conditions.

The established minima for visual meteorological conditions are contained in paragraph 3.9.1APKR-2.

Airworthy -the condition of an aircraft, engine, propeller or part such that it conforms to its approved design and is capable of safe operation.

Maintenance Program –a document describing specific scheduled maintenance activities and the frequency at which they are to be performed, and associated procedures, such as reliability programmes, necessary to ensure the safe operation of the aircraft to which it relates.

Extended diversion time operations (EDTO) –any flight by an aircraft with two or more gas turbine engines where the flight time to an en-route alternate airport exceeds the threshold time established by the Civil Aviation Authority.

Psychoactive substances –alcohol, opioids, cannabinoids, sedatives and hypnotics, cocaine, other psychostimulants, hallucinogens and volatile solvents; tobacco and caffeine are excluded.

Flight plan in action –a plan prepared by an operator for the safe execution of a flight, taking into account the performance characteristics of the aircraft, operating limitations and expected conditions on the intended route and at the appropriate aerodromes.

Available Rejected Takeoff Distance (ARCD)-available runway length at take-off plus the length of the stopway, if provided.

Available Landing Distance (ALD) –the length of a runway that is declared available and suitable for an aircraft to travel after landing.

Expanded operational capabilities-additional approved capabilities that enable the enhanced aircraft to utilize lower aerodrome operating minima than those normally approved for the base aircraft, based on the performance of the enhanced aircraft systems utilizing available external infrastructure.

Recorded data on continuing airworthiness-recorded data relating to the status of maintenance work on an aircraft, engine, propeller or related part.

Repair -restoration of the airworthiness of an aircraft, engine, propeller or related part after damage or wear in accordance with the relevant airworthiness standards.

The departure line isthe latest geographic point from which an aircraft may continue en route to its destination aerodrome and to an en route alternate aerodrome available for the flight.

Flight Management –exercise of authority in relation to the commencement, continuation or termination of a flight, as well as changes in the route in the interests of the safety of the aircraft, regularity and efficiency of the flight.

Flight Operations Manual –a manual containing rules, instructions and recommendations for use by operating personnel in the performance of their duties.

Aircraft Flight Manual –a manual acceptable to the Civil Aviation Authority that includes routine, contingency and emergency procedures, checklists, limitations, performance information and aircraft systems data, and other material related to the operation of the aircraft.

Note: The aircraft flight manual is part of the flight operations manual.

Airplane -a heavier-than-air aircraft propelled by a power plant, the lift of which in flight is generated primarily by aerodynamic reactions on surfaces that remain stationary under given flight conditions.

Maintenance Certificate –a document containing information confirming the satisfactory performance of the maintenance work specified therein in accordance with the relevant airworthiness standards.

Performance Based Communication (PBC) –communications based on requirements and characteristics applicable to the provision of air traffic services.

Note: Required Communication Performance (RCP) includes the communication performance requirements related to system components in terms of provision of communications and associated transmission time, continuity, availability, integrity, security and functionality necessary to carry out the proposed operation in the context of a specific airspace concept.

Air Operator Certificate (AOC) –a certificate authorizing an operator to operate certain commercial air services.

Flight Safety Documentation System –a set of interrelated documents established by the operator, containing in a systematic form the information necessary for flight and ground operations and including, as a minimum, a flight operations manual and an operator's maintenance regulation manual.

Synthetic Visualization System (SVS) –a system for displaying images of the external environment obtained from data synthesized in a perspective view from the pilot's cabin.

Enhanced Vision System (EVS) –a system for displaying electronic images of the external environment in real time, based on the use of image sensors.

Note: The EVS system does not include night vision systems (NVIS).

Flight Safety Management System (FSMS) –a systematic approach to safety management, including the necessary organizational structure, chain of command, responsibilities, guidelines and procedures.

Fatigue Risk Management System (FRMS) –a data-driven system for continuously monitoring and managing fatigue-related safety risks, based on scientific principles and knowledge as well as operational experience, and ensuring that relevant personnel perform their functions at an appropriate level of alertness.

Aircraft tracking –an operator-established process for recording and updating at standardized intervals on the ground the four-dimensional position of individual aircraft in flight.

Service time –the period of time which commences at the time when a member of the flight or cabin crew, as directed by the operator, reports for or is about to perform official duties and ends at the time when such person is relieved from all official duties.

Job Duties –any tasks that flight or cabin crew members perform under the direction of the operator, including, for example, flight duties, administrative work, training, movement to duty stations and standing by if this may cause fatigue.

Service flight time –the period of time that begins when a member of the flight or cabin crew is required to report for duty involving the performance of a flight or series of flights and ends when the aircraft comes to a complete stop and

the engines are shut down following the completion of the last flight on which he/she is a member of the crew.

Replacement pilot during the cruise phase of the flight –a member of the flight crew who is assigned to act as pilot in the cruise phase of a flight during the scheduled rest period of the aircraft commander or co-pilot.

Relevant airworthiness standards-comprehensive and detailed airworthiness standards established, adopted or recognized by the Civil Aviation Authority for the class of aircraft, engines or propellers under consideration.

The relevant competent authority of the Internal Affairs Directorate-the appropriate authority designated by a State that is responsible for the provision of air traffic services within a given airspace.

Flight Operations Officer/Flight Dispatcher –a person appointed by the operator to exercise control and supervision over the performance of flights, regardless of whether he holds a certificate, who has the qualifications that meet the requirements of APKR-1 and provides support, conducts instructions and/or assists the aircraft commander in ensuring the safe performance of the flight.

Required Surveillance Performance Specification (RSP) –a set of requirements for the provision of air traffic services and the associated ground equipment, aircraft capabilities and operations necessary to implement performance-based surveillance.

Required Communication Performance Specification (RCP) –a set of requirements for the provision of air traffic services and the associated ground equipment, aircraft capabilities and operations necessary to support performance-based communications.

Special approval-A special approval is an approval documented in the operational specifications for commercial air transport operations or in the special approval list for non-commercial air transport operations.

Total Height Error (TVE) –the geometric difference in the vertical plane between the actual barometric altitude at which an aircraft is located and the specified barometric altitude (flight level).

Dry runway –A runway is considered dry if its surface is not wet or contaminated and there is no visible moisture within the area intended for use.

Instrument approach procedure (IAP) –a series of predetermined manoeuvres performed using flight instruments, subject to established requirements to avoid collision with obstacles, from an initial approach fix or, where appropriate, from the start of a specified arrival route to a point from which landing can be accomplished or, if landing is not accomplished, to a point from which the obstacle clearance criteria in the holding or en-route area apply. Instrument approach procedures are classified as follows:

Non-precision approach (NPA) –an instrument approach procedure designed to perform two-dimensional (2D) type A instrument approaches.

Note: Non-precision approach procedures may be flown using the continuous descent final approach (CDFA) method. A CDFA with onboard VNAV advisory guidance is considered a three-dimensional (3D) instrument approach. A CDFA with

manual calculation of the required rate of descent is considered a two-dimensional (2D) instrument approach.

Approach with vertical guidance (APV) –an instrument approach procedure using performance-based navigation (PBN) designed to perform three-dimensional (3D) Type A instrument approaches;

Precision approach (PA) chart –an instrument approach procedure based on the use of navigation systems (ILS, MLS, GLS and SBAS CAT I), designed to perform three-dimensional (3D) instrument approaches of type A or B. The types of instrument approaches are specified in paragraph 69 of these Rules.

Current Flight Plan (CPL)-a flight plan that reflects possible changes to the filed flight plan due to subsequent ATC clearances.

Maintenance –the performance of work on an aircraft, engine, propeller or related part necessary to maintain the airworthiness of the aircraft, engine, propeller or related part, including maintenance, inspection, replacement, rectification of defects, whether performed alone or in combination, and the actual performance of modification or repair.

Standard Minimum Equipment List (MMEL) –a list prepared by the organization responsible for the type design for a specific aircraft type, approved by the State of Design, and identifying equipment components, the failure of one or more of which will not prevent the commencement of flight. The MMEL may specify special operating conditions, limitations or rules.

Flight Simulation Training Device –any of the following three types of devices by which flight conditions are simulated on the ground:

A flight simulator that accurately reproduces the cockpit of a particular aircraft type, simulating the actual functions of the mechanical, electrical, electronic and other on-board systems, the normal flight crew environment and the performance characteristics of the aircraft type.

A simulator for practicing piloting techniques that provides a realistic reproduction of the situation in the cockpit and simulates instrument readings, simple functions of mechanical, electrical, electronic and other on-board systems, as well as the flight performance characteristics of aircraft of a certain class.

A basic instrument flight training simulator that is equipped with appropriate instruments and that simulates a cockpit environment similar to that experienced during instrument flight of an aircraft.

Advanced Aircraft -an aircraft fitted with equipment supplementary to that required to enable the parent aircraft to take off, approach or land under specified conditions.

Fatigue -a physiological state of decreased mental or physical performance resulting from sleep deprivation, prolonged wakefulness, circadian rhythm phase, and/or workload (mental and/or physical activity) that may impair a person's alertness and ability to properly perform safety-related duties.

Target Level Security (TLS) –a general term meaning the level of risk that is considered acceptable under specific conditions.

Cabin Crew Member –a crew member who, in the interests of passenger/cargo safety, performs duties assigned to him/her by the operator or aircraft commander but is not a member of the flight crew.

Flight Crew Member –a licensed crew member who is assigned duties related to the operation of an aircraft during duty flight hours.

Crew member -a person designated by the operator to perform specified duties on board an aircraft during flight duty hours.

Operator –a person, organization or enterprise engaged in the operation of aircraft or offering its services in this area.

Aerodrome operating minima –restrictions on the use of the airfield for:

a) take-off, expressed in terms of runway visual range and/or visibility and, where appropriate, cloud parameters;

b) landings when performing two-dimensional (2D) instrument approaches, expressed in terms of visibility and/or runway visual range, minimum descent altitude/height (MDA/H) and, where appropriate, cloud parameters;

c) landings during three-dimensional (3D) instrument approaches, expressed in terms of visibility and/or runway visual range and decision altitude/height (DA/H) values corresponding to the type and/or category of flight.

Performance-based aerodrome operating minimum (PBAOM) –a lower aerodrome operating minimum for take-off, approach or landing under specified conditions than the minimum required for the parent aircraft.

Note: The minimum PBAOM is determined based on the combined capabilities of the aircraft and available ground facilities. PBAOM may be based on extended operational capabilities. PBAOM are not limited to PBN operations.

Performance Specifications –authorizations, including special approvals, conditions and limitations associated with the air operator certificate and subject to the conditions set out in the flight operations manual.

Electronic Flight Bag (EFB) –An electronic flight crew information system consisting of hardware and software applications that enables the flight crew to utilize EFB functions to store, update, display, and process data relevant to the performance of a flight or flight-related duties.

COMAT –operator's materials carried on the operator's aircraft for its own purposes.

Chapter 2. Application

2. These Rules have been developed on the basis of Annex 6 to the Convention on International Civil Aviation "Operation of Aircraft, Part I. International Commercial Air Transport. Aeroplanes", 12th edition, incorporating Amendment No. 49.

3. All Appendices to these Rules are an integral part of these Rules.

4. The appendices to these Rules contain material that supplements these Rules and have the status of requirements for their direct application or use for the

development of relevant standards, guidelines, instructions or other documents of civil aviation entities whose activities are regulated by these Rules.

5. The notes included in these Rules have the status of factual information or references to the relevant points of these Rules or other regulatory legal acts or documents, or any other applicable sources, and are not an integral part of these Rules.

6. All verbs in the text of the requirements of these Rules are formulated in the present tense, indicative mood. The verb "must" is used in the imperative sense and means that the application of rules, procedures or provisions is mandatory.

7. All provisions of these Rules that have the status of recommended practice are formulated using the auxiliary verb "should" in the appropriate person with the infinitive of the main verb. The verb "may" means that the application of the procedure or provision is optional.

8. The procedure for granting and issuing relevant exemptions to air transport operators from fulfilling the requirements established by the Aviation Rules of the Kyrgyz Republic, which will not affect the provision of flight safety, is determined in accordance with the Instructions for granting exemptions/deviations from fulfilling the established requirements of the Aviation Rules of the Kyrgyz Republic.

Chapter 3. General Provisions

§1. Compliance with laws, rules and procedures

9. The operator shall ensure that all employees located abroad are aware that they are required to comply with the laws, regulations and procedures of the States within which flights are conducted.

10. The operator shall ensure that all pilots are familiar with the laws, regulations and procedures that affect their duties and that are applicable to the areas flown, the aerodromes used and the associated air navigation facilities. The operator shall ensure that other members of the flight crew are familiar with such laws, regulations and procedures that affect their respective duties on board the aircraft.

11. The operator or his designated representative is responsible for the direction of flights.

12. Responsibility for the direction of flights shall be assigned to the aircraft commander and the flight operations officer/flight dispatcher only if the operator's approved method of control and supervision of flight operations provides for the use of flight operations officers/flight dispatchers.

13. If a flight operations officer/flight dispatcher is the first to become aware of an emergency situation that poses a threat to the safety of the aircraft or persons, the actions of that person in accordance with paragraph 158 of these Rules shall include, where appropriate, prompt notification of the nature of the situation to the appropriate authorities and the transmission of a request for assistance, if required.

14. When an emergency threatening the safety of an aircraft or persons requires action which involves a violation of local regulations or requirements, the pilot-in-command shall immediately notify the appropriate local authority. If required by the State in which the incident occurs, the pilot-in-command shall submit a report of any such violation to the appropriate authority of that State; in such case, the pilot-in-command shall also submit a copy of the report to the Civil Aviation Authority. Such reports shall be submitted as soon as possible and normally within ten days.

15. Operators shall ensure that aircraft commanders have on board the aircraft all necessary information concerning search and rescue services in the area over which their aircraft will fly.

Note: This information may be provided in the flight operations manual or other acceptable form.

16. Operators shall ensure that flight crew members demonstrate the ability to speak and understand the language used for radiotelephony communications as specified in APCR-1.

§ 2. Compliance by a foreign operator with the laws, rules and procedures of the Kyrgyz Republic

17. The Foreign Operator shall comply with and observe the requirements

established by the laws, regulations and procedures of the Kyrgyz Republic. In the event of non-compliance or possible non-compliance by a foreign operator with the laws, regulations or procedures of the Kyrgyz Republic, or with any flight safety requirements, the Civil Aviation Authority shall immediately notify the operator and, if necessary, the State of the operator. If the State of the operator and the State of Registry are different States, such notification shall also be sent to the State of Registry if such non-compliance is within the scope of responsibility of that State of Registry or if such notification is necessary.

18. In the event of notification to the state of a foreign operator of the failure of such operator to comply with the requirements of the Kyrgyz Republic, the Civil Aviation Authority, together with such state, shall take appropriate measures to ensure the safety of flights by such operator.

§ 3. Flight safety management

Note: APKR-19 contains provisions on safety management for operators. Additional guidance material is provided in Appendix 13 to these Regulations.

19. An operator of aeroplanes with a certificated take-off mass greater than 15,000 kg shall establish and maintain a flight data analysis programme as part of its safety management system.

20. All aircraft with a certified take-off weight greater than:

а) 27,000 kg; or

б) 15,000 kg with a passenger capacity greater than 19 and having an airworthiness certificate first issued on or after January 1, 2027, shall be equipped with flight data analysis program support.

21. The operator of an aeroplane equipped as specified in paragraph 20 shall develop and maintain a flight data analysis programme as an integral part of its safety management system.

22. An operator of an aircraft with a maximum certificated take-off mass greater than 27,000 kg shall adopt and maintain a flight data analysis program as part of its safety management system.

23. An operator may contract out the operation of a flight data analysis programme to another party while retaining overall responsibility for the execution of such programme.

The contracting organization must be approved by the Civil Aviation Authority.

24. The flight data analysis program shall not entail punitive action and shall include appropriate safeguards to protect the source(s) of such data in accordance with APCR-19.

25. The civil aviation authority does not allow use recordings or transcripts from CVR, CARS, AIR Class A and AIRS Class A recorders for purposes other than the investigation of an accident or incident in accordance with APCR-13, except in cases where the recordings or transcripts:

а) relate to a safety event identified in the context of the safety management system; are limited to the relevant parts of the de-identified transcript of the recordings; and are subject to the protection provided for in APCR-19;

б) are requested for use in criminal proceedings unrelated to an event related to the investigation of an aviation accident or incident and are subject to the protection provided by APCR-19; or

в) are used to check onboard flight data recording systems.

Note: Provisions concerning the protection of flight safety data and information and related sources are contained in APCR-19. When an investigation is conducted under APCR-13, the investigation records are subject to the protection provided for in APCR-13.

26. The civil aviation authority shall not permit the use of recordings or transcripts from FDR, ADRS, as well as Class B and Class C AIR and AIRS for purposes other than the investigation of an aircraft accident or incident in accordance with APCR-13, except in cases where the recordings or transcripts are subject to the protection provided for in APCR-19 and:

а) used by the operator for airworthiness or maintenance purposes;

б) are used by the operator in carrying out the flight data analysis programme required by these Rules;

в) are requested for use in proceedings unrelated to an event related to the investigation of an aviation accident or incident;

г) depersonalized; or

д) are provided in compliance with the rules for protecting access to them.

Note: Provisions relating to the protection of flight safety data and information and related sources are contained in APC-19.

27. As part of its safety management system, the operator shall establish a safety documentation system for the guidance and use of operational personnel.

Note. Guidance material concerning the development and structure of a flight safety documentation system is provided in Appendix 13 to these Regulations.

§ 4. Use of psychoactive substances

28. Provisions concerning the use of psychoactive substances are contained in APCRA-1 and APCRA-2.

§ 5. Aircraft tracking

29. The operator shall provide the technical capability to track aircraft for the purpose of escorting aircraft within the entire airspace in which it operates.

30. The operator shall monitor, by automatic transmission of messages at least every 15 minutes, the position of the aircraft on the flight segment(s), under the following conditions:

- the aircraft has a maximum certified take-off weight of over 27,000 kilograms and a passenger capacity of over 19 people;

- when the ATS unit receives information about the aircraft's location at an interval exceeding 15 minutes.

31. The operator shall monitor, by automatic transmission of messages at least every 15 minutes, the position of the aircraft on the flight segment(s) planned in the oceanic area(s) under the following conditions:

- the aircraft has a maximum certified take-off weight of over 45,500 kilograms and a passenger capacity of over 19 people;
- when the ATS unit receives information about the aircraft's location at an interval exceeding 15 minutes.

Note: For the purpose of aircraft tracking, "oceanic area" means airspace over water beyond the territory of any State.

Provisions concerning the coordination between the operator and air traffic service providers in the transmission of position messages are contained in APCR-11.

32. Notwithstanding paragraphs 30 and 31, the Civil Aviation Authority may, based on the results of an approved risk assessment process implemented by the operator, authorise changes to the automatic message transmission intervals. This process shall demonstrate how the operational risks arising from such changes are managed and shall include at least the following:

а) capabilities of the operator's flight control systems and processes, including systems and processes for establishing communications with ATS units;

б) capabilities of the aircraft and its systems as a whole;

в) available means for determining the location of the aircraft and maintaining communication with it;

г) frequency and duration of intervals in automatic message transmission;

д) human factors consequences resulting from changes in flight crew procedures;

е) specific risk reduction measures and emergency response procedures.

33. The operator shall establish procedures, approved by the Civil Aviation Authority, for the retention of aircraft tracking data to assist search and rescue services in determining the last known position of the aircraft.

Note: Item 43 contains information regarding the responsibilities of the operator when using third parties to carry out aircraft tracking under §5 of this Chapter.

Chapter 4. Flight Operations

§ 1. Operating provisions and means

34. The operator shall ensure that no flight is commenced until it is satisfied, on the basis of reasonable data, that the available ground and/or water facilities which are directly required for such flight, for the safe operation of the aeroplane and the protection of passengers, are adequate for the operating conditions

in which the flight is to be carried out and that they are properly used for that purpose.

Note.— The expression "valid data" means the use by an operator of information either provided at the point of departure in the form of official information published by aeronautical information services or obtained from other readily available sources.

35. The operator shall ensure that a planned flight does not commence or proceed until it is satisfied, on the basis of reasonable data, that the airspace within which the intended route from the departure aerodrome to the destination aerodrome passes, including the departure, destination and alternate aerodromes, can be used safely to conduct the planned flight. In cases where the flight is intended to be conducted over or in close proximity to conflict zones, the operator shall conduct a risk assessment and take appropriate measures to mitigate the risk to the safety of the flight.

36. The operator shall ensure that any malfunctions of the equipment observed during flights are reported to the responsible authority without undue delay.

37. Aerodromes and their facilities, in accordance with the published conditions of their use, shall be maintained at all times in a state of fitness for flight operations during the published hours of operation, regardless of weather conditions.

38. The operator shall, as part of its safety management system, assess the level of rescue and fire fighting service (RFFS) protection provided at the aerodrome intended to be specified in the operational flight plan to ensure that an acceptable level of protection is provided for the aeroplane intended to be used.

39. Information on the level of protection provided by the RFFS that the operator considers acceptable is specified in the Operations Manual.

Guidance material on assessing the acceptable level of protection provided by RFFS at aerodromes is provided in Appendix 14 to these Regulations.

This guidance material is not intended to limit or regulate the operation of an aerodrome. The operator's assessment does not in any way affect the RFFS requirements for aerodromes in APKR-14.

§ 2. Certification for the right to conduct flights and control (Air Operator Certificate)

40. An operator shall not engage in commercial air transport unless it holds a valid air operator certificate issued by the Civil Aviation Authority.

41. An air operator certificate authorizes an operator to operate commercial air transportation services in accordance with operational specifications.

42. The issuance of an air operator certificate by the Civil Aviation Authority is dependent on the operator having in place an adequate organisational structure, flight management and control procedures, training programme, and ground and maintenance system that are appropriate to the nature and volume of flights to be carried out.

Appendix 11 to these Rules contains guidance material on the issuance of an air operator certificate.

43. The operator shall develop policies and procedures for third parties performing work on its behalf.

44. The validity period of the air operator certificate depends on the operator's compliance with the requirements of paragraph 42 of these Rules under the supervision of the Civil Aviation Authority.

45. The air operator certificate shall contain at least the following information and shall comply with the format given in Appendix 5 to these Regulations:

- the State of the Operator and the issuing authority;
- the operator's certificate number and its validity period;
- name of the operator, commercial name (if different) and legal address;
- date of issue, surname, signature and position of the head of the Civil Aviation Authority;
- location on a controlled document on board of contact information relating to operational management.

46. The performance specifications shall contain at least the information specified in Appendix 5 to these Rules and shall comply with the format given in that Appendix.

Appendix 11 to these Rules contains additional information that may be included in the operational specifications associated with the air operator certificate.

47. When issuing aircraft performance specifications to an air operator certificate, the Civil Aviation Authority shall review the performance specifications for both new and existing operators and shall cancel previously valid performance specifications issued to the air operator certificate of the previous owner or lessee of the aircraft.

The Civil Aviation Authority issues to the operator an original copy of the air operator certificate and one original copy of the operational specification with an entry in the "Register of issued air operator certificates of the Kyrgyz Republic" and in the "Register of issued operational specifications". A copy of the air operator certificate and the second original copy of the operational specification are kept by the Civil Aviation Authority.

48. The civil aviation authority, in accordance with Appendix 4 to these Rules and APCR-19, shall organize a system both for the certification of the operator and for the purpose of implementing continuous supervision of its activities in order to ensure compliance with the mandatory flight performance requirements provided for in this paragraph.

§ 3. Supervision of flights performed by a foreign operator

49. The civil aviation authority of the Kyrgyz Republic shall recognize as valid an air operator certificate issued by another state, provided that the

requirements in accordance with which such certificate was issued are at least equivalent to the requirements contained in these Rules and in APKR-19.

50. The civil aviation authority of the Kyrgyz Republic shall establish a program defining the procedures for the implementation of supervision of flights performed by a foreign operator on the territory of the Kyrgyz Republic and the adoption of appropriate actions when necessary to maintain flight safety.

51. The operator fulfills and complies with the requirements established by the Civil Aviation Authority of the Kyrgyz Republic.

§ 4. Flight Operations Manual

52. The operator shall ensure that the Operations Manual is available for the use and guidance of the appropriate personnel involved in flight operations. The Operations Manual shall be amended or revised as necessary to update the information contained therein. Whenever changes are made or revisions are made, all personnel required to use the manual shall be informed thereof.

Note: Requirements for the structure and content of the flight operations manual are contained in Appendix 2 to these Rules.

53. The operator shall provide a copy of the operations manual with all amendments and/or revisions for review and approval. The operator shall include in the operations manual the mandatory material required by the Civil Aviation Authority.

Note. Specific provisions of the flight operations manual shall be approved by the Civil Aviation Authority in accordance with the provisions of §9 of Chapter 4 and paragraphs 204, 380, §4 of Chapter 12 and paragraph 435 of these Rules.

§ 5. Operating instructions. General provisions

54. The operator shall ensure that all personnel involved in flight operations are properly instructed as to their specific duties and responsibilities and as to the relationship of such duties to flight operations as a whole.

55. Taxiing of an aircraft on the airfield maneuvering area is carried out only if the person in control:

- duly authorized by the operator or appointed agent;
- fully prepared to taxi the aircraft;
- permitted to use a radiotelephone;
- has been instructed by a competent person regarding the aerodrome layout, routes, markings, lights, signals and air traffic control (ATC) instructions, phraseology and procedures, and can ensure that the required operational standards for the safe movement of aircraft at the aerodrome are met.

56. The operator shall include in the flight operations manual the operating instructions and provide information on the performance characteristics of the aeroplane during climb with all engines operating, enabling the pilot-in-command

to determine the climb gradient that can be achieved during the take-off phase, taking into account the existing take-off conditions and the intended method of execution.

§ 6. Simulation of an emergency situation in flight

57. When transporting passengers or cargo, emergency situations or abnormal situations are not simulated.

§7. Control charts

58. The checklists introduced in accordance with paragraph 206 of these Rules shall be used by flight crews before, during and after all stages of flight, as well as in emergency situations, in order to ensure compliance with the operating rules contained in the aircraft flight manual and the airplane flight manual or other documents related to the airworthiness certificate, as well as in other parts of the flight operations manual. When developing and using checklists, human factors aspects shall be taken into account.

§ 8. Minimum absolute flight altitudes

59. An operator is permitted to establish minimum flight altitudes on those routes for which minimum flight altitudes have been established by the State over which the flight is carried out or by the State responsible for flight operations, provided that they are not less than those established by that State, unless special permission has been granted.

60. The operator shall specify the method by which it intends to determine minimum altitudes for flights conducted en route where minimum altitudes have not been established by the State over whose territory the flights are conducted or by the State responsible for flight operations, and shall include this method in the operations manual. The minimum altitudes for flights determined in accordance with the above method shall not be less than those specified in APCR-2.

61. The method for establishing minimum absolute flight altitudes shall be approved by the Civil Aviation Authority.

62. The civil aviation authority shall approve such a method after careful consideration of the possible impact on the safety of the flight in question of the following factors:

- the accuracy and reliability with which the position of the aircraft can be determined;
- inaccuracies in the readings of the altimeters used;
- terrain characteristics (e.g. sudden changes in elevation);
- the likelihood of encountering adverse meteorological conditions (e.g. severe turbulence and downdrafts);
- possible inaccuracies in aeronautical charts;
- airspace restrictions.

§ 9. Aerodrome operating minima

63. The operator shall establish operating minima for each aerodrome used for flight operations, and the Civil Aviation Authority shall approve the methods for determining such minima. Such minima shall not be less than those which may be established for such aerodromes by the State of the aerodrome, except with the express consent of that State.

64. The Civil Aviation Authority approves the use of extended operational capabilities for operations of advanced aircraft. Where the operational capabilities relate to operations in low visibility conditions, the Civil Aviation Authority issues a specific approval. Such approvals do not affect the classification of instrument approaches.

65. Advanced operational capabilities include:

– in situations where approach is prohibited (clause 128 of Chapter 4 of these Rules) or for control reasons the minima are lower than the aerodrome operating minima;

– reducing or complying with visibility requirements; or

– the need for a smaller number of ground-based assets, the capabilities of which are compensated by the capabilities of on-board equipment.

66. When issuing a special approval for extended operational capabilities, the Civil Aviation Authority shall ensure that:

– the aircraft met the relevant requirements for issuance of an airworthiness certificate;

– information necessary for the effective performance of flight tasks by the flight crew has been adequately provided to both pilots in cases where the number of crew members specified in the flight operations manual is more than one;

– the operator has carried out an assessment of the safety risks associated with flights performed using such equipment;

– the operator has developed and documented the implementation of routine and abnormal procedures and MEL;

– the operator has developed a training programme for flight crew members and relevant personnel involved in flight preparation;

– the operator has developed a system for collecting, evaluating data and monitoring trends applicable to flights in low visibility conditions for which extended operational capabilities exist;

– The operator has established appropriate procedures concerning continuing airworthiness (maintenance and repair) practices and programmes.

67. The civil aviation authority shall establish criteria for the safe operation of aircraft with extended operational capabilities at minima greater than those established for operations in low visibility conditions.

68. The Civil Aviation Authority shall require that in determining the aerodrome operating minima to be applied to any particular operation, the operator shall take full account of:

– the type, performance and handling characteristics of the aircraft and any conditions or limitations provided by the flight manual;

– the composition of the flight crew, the qualifications and experience of its members;

– the dimensions and characteristics of the runways that may be selected for use;

– compliance and characteristics of available visual and non-visual means;

– equipment installed on an aircraft for the purposes of navigation, visual identification and/or flight path control during approach, landing and go-around;

– obstacles in the approach and go-around areas and maximum absolute/relative obstacle clearance heights during instrument approach;

– means used to determine and report meteorological conditions;

– obstacles in the take-off altitude gain zones and the required clearance above obstacles;

– conditions specified in the operating specifications;

– any minimums which may be published by the State of the Aerodrome.

69. Instrument approaches are classified based on the estimated lowest operating minima below which the approach is continued only with the required visual reference, as follows:

– Type A: The minimum descent altitude or minimum decision altitude is 75 metres (250 feet) or more;

– Type B: The decision altitude is less than 75 meters (250 feet). Type B instrument approaches are divided into the following categories:

1) Category I (CAT I): decision height of not less than 60 m (200 ft) and either visibility of not less than 800 m or runway visual range of not less than 550 m;

2) Category II (CAT II): decision height less than 60 m (200 ft), but not less than 30 m (100 ft) and runway visual range not less than 300 m;

3) Category III (CAT III) decision height less than 30 m (100 ft) or without limitations on decision height and runway visual range less than 300 m or without limitations on runway visual range.

70. Where decision height (DH) and runway visual range (RVR) fall under different categories of operations, the instrument approach will be conducted in accordance with the most stringent category (e.g. a flight with DH in the CAT III range but RVR in the CAT III range or a flight with DH in the CAT II range but RVR in the CAT I range will be considered a CAT II flight). This does not apply where RVR and/or DH are approved as extended operational capabilities.

71. "Required visual contact with references" means the visibility of a portion of the visual aids or approach area for a time sufficient for the pilot to assess the aircraft's position and its rate of change relative to the nominal flight path. In the case of a circling approach, visual contact with references in the runway area is required.

72. The civil aviation authority issues special approval for low visibility instrument approaches which are carried out only when runway visual range (RVR) information is provided.

73. For take-off in low visibility conditions, the Civil Aviation Authority issues a special approval for the minimum RVR for take-off. In general, visibility for take-off is determined by the RVR parameters. Equivalent horizontal visibility may also be used.

74. If runway visual range (RVR) information is not provided, establishing aerodrome operating minima below 800 m for instrument approaches is not permitted.

75. Operating minima for two-dimensional (2D) instrument approaches using instrument approach procedures are determined by establishing a minimum descent altitude (MDA) or minimum descent height (MDH), minimum visibility and, where appropriate, cloud parameters.

76. Operating minima for three-dimensional (3D) instrument approaches are determined by establishing a decision altitude (DA) or decision height (DH) and a minimum visibility or RVR.

§ 10. Runway threshold clearance height during three-dimensional (3D) instrument approach

77. The operator shall establish operating procedures that ensure that the aeroplane, when performing a three-dimensional (3D) instrument approach, crosses the runway threshold with sufficient altitude to ensure safety when the aeroplane is in the landing configuration and in the landing attitude.

§ 11. Accounting for fuel and oil refills

78. The operator shall maintain a record of fuel refuelling which shall confirm that the requirements contained in §18 of Chapter 4 of these Rules and in paragraph 112 of Chapter 4 of these Rules were observed during the performance of each flight.

79. The operator shall maintain oil fill records that confirm that oil consumption provides sufficient oil to complete each flight.

80. Documents recording fuel and oil refills are kept by the operator for 12 months.

§ 12. Crew

81. Aircraft commander. For each flight, the operator shall designate one pilot as aircraft commander.

82. The operator shall maintain records of each flight of the aircraft above 15,000 metres (49,000 ft) so that the total cosmic radiation dose to each crew member can be determined for 12 consecutive months.

§ 13. Passengers

83. The operator shall take measures to ensure that passengers are familiar with the accommodation locations and rules for use:

– seat belts;
– emergency exits;
– life jackets, if provided on board;
– oxygen equipment, if it is intended for use by passengers;
– other emergency rescue equipment for individual use, including plans for passenger actions in an emergency.

84. The operator informs passengers about the location and general procedure for using the main on-board emergency rescue equipment intended for collective use.

85. The operator shall ensure that, in the event of an emergency during flight, passengers are instructed in such emergency actions as may be appropriate under the circumstances.

86. The operator shall ensure that during take-off and landing and at any time when turbulence or any emergency occurring during flight makes it necessary, all passengers on board the aircraft are secured in their seats by means of seat belts or other suitable restraint devices.

§ 14. Preparation for flights

87. The flight shall not commence until it has been documented that the aircraft commander is satisfied with the results of the pre-flight preparation, confirming that:

– the aircraft is fit for air travel and the aircraft has the appropriate certificates and documents (airworthiness, registration) on board;
– the instruments and equipment provided for in Chapter 6 of these Rules for a specific type of upcoming flight are installed in sufficient quantity for the given flight;
– the aircraft has been issued a certificate of completion of technical maintenance, as provided for in §14 of Chapter 8 of these Rules;
– the aircraft's mass and the location of the center of gravity allow for safe flight, taking into account the expected flight conditions;
– any cargo on board is properly distributed and securely fastened;
– an inspection has been carried out, the results of which have shown that the operational limitations provided for in Chapter 5 of these Rules can be observed during the intended flight;
– the standards of §15 of Chapter 4 of these Rules concerning the preparation of the operational flight plan have been met.
– there is all the aircraft documentation, the flight manual and the RPP with its individual parts with current revisions/amendments, as well as the relevant permitting documentation and permissions to perform the flight;
– there is no unauthorized equipment on board that does not have the appropriate permission for its use.

88. The operator shall retain the completed flight preparation documentation for 12 months.

§ 15. Drawing up a flight plan

89. An operational flight plan shall be prepared for each intended flight and its form shall be given in the Operations Manual. The operational flight plan shall be approved and signed by the pilot-in-command and, where appropriate, the flight operations officer/dispatcher and one copy shall be provided to the operator or designated representative or, if this is not possible, deposited with the aerodrome authority or recorded at an appropriate location at the point of departure.

The flight plan includes the following information:

- aircraft registration number;
- type and model of aircraft;
- date of flight;
- flight number;
- Full names of crew members;
- crew member positions;
- departure airport;
- departure time (actual time of chock removal and take-off time);
- landing airport (planned and actual);
- arrival time (boarding time and chock installation time);
- flight type (EDTO, VFR, IFR, etc.);
- the flight route, including turning points and mandatory reporting points, distances, flight times between them, and specified track angles along the route, including flights to alternate aerodromes;
- planned cruising speed and total flight time, estimated and actual time of flight of the specified points;
- minimum safe flight altitudes (levels), planned flight altitudes (levels);
- planned flight altitudes and flight levels;
- fuel calculation and control of fuel consumption in flight;
- amount of fuel on board before starting the engines;
- alternate destination, take-off and en-route airfields;
- initial clearance from the ATC authority and possible changes during the flight;
- calculation of a flight plan changed in flight;
- necessary meteorological information;
- other information specified by the operator.

90. The Flight Operations Manual describes the contents and procedures for using the operational flight plan.

§ 16. Alternate airfields

Alternate airfield during takeoff

91. An alternate aerodrome during take-off is selected and indicated in the operational flight plan when meteorological conditions at the departure aerodrome are below the landing minima established by the operator for the aerodrome for the given flight or if it is not possible to return to the departure aerodrome for other reasons.

92. The alternate aerodrome for takeoff is located within the following flight time from the departure aerodrome:

а) twin-engine aeroplanes: 1 hour of flight time at cruising speed with one engine inoperative, determined in accordance with the aircraft flight manual calculated in ISA and in calm conditions using the actual take-off mass or;

б) aeroplanes with three or more engines: 2 hours of flight time at cruising speed with all engines operating, determined in accordance with the aircraft flight manual calculated in ISA and in calm conditions using the actual take-off mass or;

в) aeroplanes performing flights (EDTO), in cases where there is no aerodrome meeting the distance criteria specified in points a) and b) above, the first available alternate aerodrome located within the maximum diversion time permitted for the operator in question, taking into account the actual take-off mass.

93. For an aerodrome selected as an alternate for the aerodrome of takeoff, available information indicates that at the estimated time of use, conditions at the aerodrome will meet or exceed the aerodrome operating minima established by the operator for such operations.

Alternate airfields on the route

94. En-route alternate aerodromes at EDTO for twin turbine engine powered aeroplanes shall be selected and specified in the filed operational flight plan and, if applicable, in the preliminary flight plan.

Alternate airfields of destination

95. For a flight conducted under instrument flight rules, at least one destination alternate aerodrome shall be selected and specified in the filed operational flight plan and, if applicable, in the preliminary flight plan, except when:

– the duration of the flight from the departure aerodrome or from the point on the route where the flight plan is changed to the destination aerodrome shall be determined taking into account meteorological conditions and operational information concerning the flight that provide grounds for reasonable confidence that at the estimated time of use of the aerodrome:

а) approach and landing may be conducted in visual meteorological conditions; and

б) at the destination aerodrome, at the estimated time of use, there are independent operational runways, at least one of which is equipped for instrument approaches; or

– the aerodrome is isolated. Operation of flights to isolated aerodromes does not require the selection of alternate aerodrome(s) of destination and is planned in accordance with subparagraph g) of paragraph 107 §18 of Chapter 4 of these Rules:

а) for each flight to an isolated airfield, a departure line is determined;

б) A flight to an isolated aerodrome shall be continued after passing the departure point only if the assessment of meteorological conditions, air traffic and other operational conditions at the given time indicates that a safe landing can be made at the estimated time of use of the aerodrome.

96. Independent runways are two or more runways at the same aerodrome, located in such a way that if one runway is closed, flight operations can be supported by the other runway(s).

97. Two destination alternate aerodromes shall be selected and specified in the submitted operational flight plan and, if applicable, in the provisional flight plan when, for the destination aerodrome:

– meteorological conditions at the estimated time of use of the aerodrome are below the established aerodrome operating minima established by the operator for such flight operations; or

– There is no information on meteorological conditions.

98. Notwithstanding the provisions of §16 of Chapter 4 of these Regulations, the Civil Aviation Authority may, on the basis of a specific safety risk assessment carried out by the operator which demonstrates that an equivalent level of safety is ensured, approve operational variations of the alternate aerodrome selection criteria. The specific safety risk assessment shall include at least the following:

– operator characteristics;

– general technical characteristics of the aircraft and its systems;

– the equipment, technical characteristics and infrastructure available at the airfield;

– quality and reliability of meteorological information;

– identified safety hazards and risks associated with each alternate airfield use option;

– specific measures to minimize the consequences.

§ 17. Meteorological conditions

99. A VFR flight shall not commence until current meteorological reports or a compilation of current reports and forecasts indicate that meteorological conditions on the route or portion of the route over which the aircraft is to be flown in accordance with VFR will at an appropriate time enable compliance with these regulations.

100. Flight according to instrument flight rules is not carried out:

– take-off at the departure aerodrome until the meteorological conditions at the time of take-off meet or exceed the operating minima established by the operator for this type of flight operation;

– take-off at the departure aerodrome or the flight shall not be continued after reaching the flight plan change point until at the destination aerodrome or at each alternate aerodrome selected in accordance with §16 of Chapter 4 of these Regulations actual weather reports or a combination of actual weather reports and forecasts indicate that meteorological conditions at the estimated time of use of the

aerodrome will meet or exceed the aerodrome operating minima established by the operator for such operations.

– If the flight duration is planned to be less than two hours, the actual weather information at the destination airport, taking into account the forecast weather trend (TREND), must comply with the established operating minima, taking into account the wind direction and speed (including gusts) and the braking conditions on the runway selected for landing. The long-term weather forecast may not be taken into account.

101. The operator shall establish appropriate values of cloud base and visibility acceptable to the Civil Aviation Authority, which shall be added to the alternate aerodrome operating minima established by the operator.

102. The civil aviation authority approves the time reserve established by the operator for the estimated time of use of the aerodrome.

103. Flight into known or expected icing conditions shall commence only if the aircraft is certified and equipped to fly in such conditions.

104. A flight planned or expected to be conducted in suspected or known icing conditions on the ground shall not commence until the aircraft has been inspected for icing and de-iced/anti-iced as necessary. Ice build-up or other naturally occurring contaminants shall be removed to ensure that the aircraft is in an airworthy condition prior to take-off.

§ 18. Fuel supply

105. The aircraft is provided with sufficient fuel to safely complete the intended flight and to allow for deviations from the intended flight plan.

106. The usable fuel supply on board an aircraft is based, as a minimum, on:

– the following data:

а) current aircraft-specific data obtained from fuel flow monitoring systems, if available, or

б) in the absence of current data regarding a specific aircraft, data provided by the aircraft manufacturer;

– operating conditions for the execution of the planned flight, including:

а) expected aircraft mass;

б) NOTAM;

в) current weather reports or a combination of current reports and forecasts;

г) air traffic control procedures, restrictions and expected delays;

д) consequences of delaying certain types of maintenance and/or configuration deviations.

107. Pre-flight calculation of fuel quantity includes:

– fuel for taxiing, before takeoff, taking into account local conditions at the departure airfield and the volume of fuel consumed by the auxiliary power unit (APU);

– fuel for the flight along the route from the moment of take-off or flight from the point of change of the flight plan until landing at the airfield of the

destination, taking into account the operating conditions specified in subparagraph b of paragraph 106 of Chapter 4 of these Rules;

– fuel to cover contingencies, which shall be 5% of the planned en-route fuel or the fuel required to fly from the flight plan change point, calculated on the basis of the fuel consumption rate used to calculate the en-route fuel, but in no event less than the amount of fuel required to fly for at least 5 minutes at holding speed at an altitude of 450 m (1,500 ft) above the destination aerodrome under standard conditions;

Note: Unforeseen factors are those factors that may affect fuel consumption during the flight to the destination aerodrome, such as deviation from the expected fuel consumption figures for a particular aeroplane, deviation from forecast meteorological conditions, increased delays and deviation from planned routes and/or cruising flight levels.

– fuel for the flight to the alternate airport of the destination, which provides:

а) when an alternate destination airfield is required, fuel for:

– go-around at the destination airfield;

– gaining the expected absolute cruising altitude;

– flight along the expected route;

– descent to the expected landing approach point;

– performing an approach and landing at an alternate aerodrome of the destination; or

б) when two destination alternate aerodromes are required, the aircraft shall have a reserve of fuel, calculated in accordance with paragraph 5 of subparagraph a) of this paragraph, which shall ensure the flight to the destination alternate aerodrome for which the greater quantity of fuel is required; or

в) if the flight is performed without a destination alternate aerodrome, it is required to carry on board a reserve of fuel sufficient to enable the aircraft to fly for 15 minutes at holding speed at an altitude of 450 m (1,500 ft) above the destination aerodrome elevation under standard conditions; or

г) If the destination aerodrome is an isolated aerodrome, then:

– for piston engine powered aeroplanes, the required fuel reserve is for 45 minutes plus 15% of the flight time planned for the flight at cruising level, including final reserve fuel, or for 2 hours, whichever is shorter; or

– for aircraft with gas turbine engines, a fuel reserve is required for a flight of 2 hours at normal cruising fuel consumption over the destination airfield, including final reserve fuel;

д) final reserve fuel, which is the fuel reserve calculated using the estimated landing mass on arrival at the destination alternate aerodrome or at the destination aerodrome when no destination alternate aerodrome is required:

– for piston engine powered aircraft, the required fuel reserve is sufficient to enable flight for 45 minutes at a speed and altitude determined by the Civil Aviation Authority; or

– for aircraft with gas turbine engines, the required fuel reserve is sufficient for a 30-minute flight at holding speed at an altitude of 450 m (1,500 ft) above the aerodrome elevation under standard conditions;

е) Additional fuel reserve is the additional amount of fuel required when the minimum fuel reserve is insufficient to:

– to enable the aircraft to descend, if necessary, and continue to fly to an alternate airport in the event of engine failure or depressurization, depending on the operation for which a greater amount of fuel is required, on the assumption that such failure will occur at the most critical point on the route;

– performing a flight at holding speed for 15 minutes at an altitude of 450 m (1500 ft) above the airfield elevation under standard conditions;

– performing approach and landing;

ж) allowing an aircraft performing an EDTO flight to perform an EDTO flight with a critical fuel reserve specified by the Civil Aviation Authority;

з) fulfillment of additional requirements not specified above.

и) Discretionary fuel reserve is the additional amount of fuel taken on board at the discretion of the aircraft commander.

Note: Planning for fuel reserves to cover a failure that may occur at the most critical point of the route (paragraph 107 e) 1)), may result in the aircraft being in an emergency situation from the point of view of fuel reserves, taking into account the provisions of paragraph 113 of these Rules.

108. The operator should determine the final reserve fuel value (fuel weight) for each aircraft type and modification in its fleet, rounding it off to an easily remembered figure.

109. The flight shall not commence if the fuel used on board does not comply with the requirements of §18 of Chapter 4 of these Rules and does not continue from the point of change of flight plan.

110. The civil aviation authority, based on the results of the operator's safety risk assessment, which has demonstrated the means to maintain the equivalent level of safety, approves the pre-flight calculation options for the fuel reserve for taxi, en-route, contingency, destination alternate aerodrome and additional fuel. The specific safety risk assessment includes at least the following:

– calculations of fuel reserves for a flight along a route;

– operator capabilities that allow:

а) define an automated method that includes a fuel consumption monitoring program; and/or

б) apply modern means of using alternate airfields;

– apply specific measures to minimize the consequences.

111. Fuel expended after the start of a flight for purposes other than those originally intended during the flight planning process requires re-analysis and, if applicable, adjustment of the planned operation.

§ 19. Fuel consumption management in flight

112. The operator shall establish policies and procedures approved by the Civil Aviation Authority to ensure control of fuel quantities and management of fuel consumption in flight.

113. The aircraft commander shall ensure that the fuel supply on board is not less than the fuel supply required to continue the flight to an aerodrome where a safe landing can be made while maintaining the planned final fuel reserve after landing.

Note: The purpose of maintaining final reserve fuel is to ensure a safe landing at any aerodrome when unforeseen circumstances may prevent the safe conduct of the flight in accordance with the original plan.

114. The aircraft commander requests ATC information about a delay when unforeseen circumstances may result in landing at the destination aerodrome with less fuel than the sum of the final reserve fuel and the fuel required to fly to an alternate or to fly to an isolated aerodrome.

115. The pilot-in-command transmits a MINIMUM FUEL message to ATC indicating the minimum reserve fuel remaining when he has decided to land at a particular aerodrome and anticipates that any change in the clearance issued for that aerodrome may result in landing with less fuel than the planned final reserve fuel.

Note: The MINIMUM FUEL message advises ATC that all planned aerodrome options are limited to the specific aerodrome of intended landing and any change to the clearance received may result in landing with less fuel than planned for the final reserve fuel. This does not indicate an emergency, but merely indicates the potential for an emergency situation if any unexpected delay occurs.

116. The aircraft commander shall declare a fuel emergency by issuing the message MAYDAY MAYDAY MAYDAY FUEL when the calculation of the estimated fuel supply on board indicates that after landing at the nearest airfield where a safe landing can be made, the fuel supply will be below the planned final reserve fuel level.

Note: The planned final reserve fuel is equal to and is the minimum amount of fuel required at the time of landing at any airfield.

The phrase MAYDAY FUEL conveys the nature of the state of distress in accordance with the requirements of paragraph 5.10.3 of APCR-10.

§ 20. Refueling with passengers on board

117. Refueling of an aircraft while passengers are embarking, on board or disembarking shall only be carried out if there is an adequate number of trained personnel on board ready to initiate and direct the evacuation of the aircraft by the most practical means available and in the shortest possible time.

118. During refuelling while passengers are embarking, on board or disembarking, two-way communication shall be maintained between ground personnel supervising the refuelling and trained personnel on board the aircraft via the aircraft intercom or other suitable means.

Note: The provisions of paragraph 117 of these Rules do not require, as a prerequisite for the commencement of refueling, the mandatory use of the aircraft's built-in ladders or the opening of emergency exits.

§ 21. Oxygen supply

119. The values of absolute altitudes at standard atmosphere that approximately correspond to the following values of absolute pressure:

Absolute pressure	Meters	Feet
700 hPa	3,000	10,000
620 hPa	4,000	13,000
376 hPa	7 600	25,000

120. A flight to be performed at such absolute altitudes at which the atmospheric pressure in the passenger and flight crew cabins is less than 700 hPa shall commence only if there is a sufficient supply of breathing oxygen on board:

– for all crew members and 10% of passengers during any period in excess of 30 minutes when the pressure in the cabins they occupy is between 700 and 620 hPa, and

– for the crew and passengers during any period when the atmospheric pressure in the cabins occupied by them is less than 620 hPa.

121. A flight to be performed by an aeroplane with pressurized cabins shall not commence unless there is on board a sufficient supply of breathing oxygen for all members of the crew and passengers, depending on the conditions of the flight to be performed, in the event of depressurization during any period when the atmospheric pressure in any cabin occupied by them is less than 700 hPa. In addition, if the aeroplane is being flown at altitudes at which the atmospheric pressure is below 376 hPa, or if the aeroplane is being flown at altitudes at which the atmospheric pressure exceeds 376 hPa and cannot descend safely within 4 minutes to an altitude at which the atmospheric pressure is 620 hPa, a minimum 10-minute supply of oxygen shall be provided for the occupants of the passenger cabin.

§ 22. Taking into account time restrictions for the fire extinguishing system in the cargo compartment

122. The operator shall plan flights so that the time of diversion to an alternate aerodrome where a safe landing is possible does not exceed the time limit for the fire extinguishing system in the cargo compartment, if specified in the aircraft documentation, reduced by the amount of the operational safety margin established by the Civil Aviation Authority.

123. Time limitations for the cargo hold fire extinguishing system are taken into account during the flight and are specified in the relevant aircraft documentation. As a rule, an operational safety margin of 15 minutes is provided for these purposes.

§ 23. Rules to be followed in flight. Aerodrome operating minima

124. Take-off is not permitted if there is information about heavy rainfall and meteorological visibility less than 600 m without using the on-board radar and the wind shear early warning system.

125. When runway visual range (RVR) information is available for three parts of the runway, the compliance of the runway visual range (RVR) with the operating minimum:

– at the start point of the takeoff run - assessed visually by the PIC;

– at the midpoint and at the end of the runway - as reported by the ATS unit or ATIS.

126. The flight shall be continued towards the destination aerodrome only if the latest available information indicates that, by the estimated time of arrival, landing at that aerodrome or at least at one destination alternate aerodrome can be accomplished in compliance with the operating minima established in accordance with §9 of Chapter 4 of these Regulations.

127. Landing is prohibited if there is information about heavy rainfall and meteorological visibility less than 600 m without using on-board radar and an early warning system for wind shear.

128. An instrument approach shall not be continued below 300 m (1 000 ft) above the aerodrome elevation in the absence of a fix defined by a FAF, or beyond the start of the final approach segment defined by a FAF or FAP if the reported visibility or reference RVR is below the aerodrome operating minimum.

129. If, after reaching the final approach segment, after passing a fix defined by a FAP or FAF or after descending below 300 m (1 000 ft) above the aerodrome elevation in the absence of a fix defined by a FAF, a meteorological visibility or reference RVR value below the established operating minimum is obtained, the approach may be continued to DA/H or MDA/H.

130. The PIC or the pilot in active control of the aircraft (PF) has the right to continue the landing approach below DA/H or MDA/H and perform landing if the crew has established and maintained visual contact with ground references along the landing course for a time sufficient for the pilot to assess the aircraft's position and the tendency of its change in relation to the assigned flight path.

131. If the pilot does not visually observe the minimum defined ground references specified for a particular approach system for a time sufficient for the pilot to assess the aircraft's position and its trend relative to the assigned flight path, continuing the approach below DA/H or MDA/H is a violation of the landing minimum.

132. Depending on the type of entry:

– The pilot (PF) shall not proceed with a visual (circle-to-land) approach until visual contact has been established and maintained with any references by which it is possible to determine the aircraft's position relative to the runway. Descent below the established MDA/H for visual (circle-to-land) manoeuvring is

permitted only when visual contact is maintained with the runway threshold or approach lighting associated with the runway;

– The pilot (PF) shall not proceed with a non-precision approach below MDA/H until visual contact is established and maintained with at least one of the following visual references on the landing course:

а) approach lighting system or part thereof;
б) runway threshold and its markings or lights;
в) runway threshold lights;
г) visual glide path indication system;
д) landing zone, its markings or lights;
е) runway edge lights (runway edge lights).

– The pilot (PF) shall not proceed with a CAT I non-precision approach below DA/H until visual contact is established and maintained with at least one of the following visual references on the landing course:

а) approach lighting system or part thereof;
б) runway threshold and its markings or lights;
в) runway threshold lights;
г) visual glide path indication system;
д) landing zone, its markings or lights;
е) runway edge lights (runway edge lights).

– The pilot (PF) shall not proceed with an approach below DH in CAT II, with the aircraft's automatic control system capabilities at the FAIL-PASSIVE level, until visual contact with references consisting of at least three consecutive lights is established and maintained:

а) centerline lights of the approach lighting system, or
б) landing zone lights, or
в) runway centre line lights, or runway edge lights (runway edge lights), or a combination of both.

– The pilot (PF) shall not proceed with an approach below a CAT III DH with the aircraft's automatic control system capability at FAIL-OPERATIONAL until visual contact with a reference consisting of at least one runway centre line light is established and maintained. A CAT III approach without a DH need not establish visual contact with the runway prior to touchdown.

133. In any case, it shall be terminated at the point at which the operating minima limitations specified for the aerodrome are not complied with or, in its opinion, the safety of landing is not ensured.

134. Reference RVR means the reported RVR values at one or more RVR observation points (touchdown, midpoint and far end of the runway) used for the purpose of determining compliance with established operating minima. Where RVR information is used, the reference RVR is the RVR at the touchdown point unless other State-established criteria apply.

§ 24. Meteorological observations

135. The rules for conducting meteorological observations in flight from on board an aircraft, as well as the rules for their registration and transmission in reports, are given in APCR-3.

136. The aircraft commander shall transmit an Airborne Emergency Response Report (AIREP) if the actual runway braking performance is not as good as reported.

§ 25. Dangerous flight conditions

137. Any hazardous flight conditions encountered, other than those related to meteorological conditions, shall be immediately reported to the air traffic controller and the appropriate aviation organization. Reports so transmitted shall include details that may be useful in ensuring the safety of other aircraft.

§ 26. Flight crew members at their work stations

138. Takeoff and landing. All members of the flight crew who are required to perform their duties in the cockpit are at their work stations.

139. En route flight. All flight crew members assigned to duty in the cockpit shall remain at their assigned work stations except when required to leave for duties related to the operation of the aircraft or to attend to their personal needs.

140. Seat Belts. All flight crew members must fasten their seat belts while at their assigned work stations.

141. Harness. Any member of the flight crew occupying the pilot's seat shall use a harness during takeoff and landing; all other members of the flight crew shall use their own harness during takeoff and landing if the shoulder belts do not interfere with their performance of their duties, and if they do, the shoulder belts may be unfastened but the lap belt shall remain fastened. The harness consists of shoulder belts and lap belts, which may be used separately.

§ 27. Use of oxygen

142. All members of the flight crew, while performing their duties essential to the safe operation of the airplane in flight, shall continuously use oxygen for breathing whenever circumstances arise for which an oxygen supply is required in accordance with paragraphs 120 or 121 of Chapter 4 of these Regulations.

143. All flight crew members of pressurized aircraft operating at altitudes where the atmospheric pressure is less than 376 hPa shall have at their workstations a quick-release oxygen mask which provides an immediate supply of oxygen when required.

§ 28. Protection of flight attendants and passengers on board aircraft with pressurized cabins in the event of depressurization

144. The operator shall take measures to protect flight attendants sufficiently to prevent them from losing consciousness during any emergency descent that may be necessary in the event of depressurization and, in addition, shall have such protective means as will enable them to render first aid to passengers during steady flight following an emergency descent. Passengers shall be protected by such means or operating procedures as will enable them, in the event of depressurization, to adequately prevent the life-threatening effects of hypoxia. However, it is not intended that flight attendants will always be able to render assistance to passengers during an emergency descent that may be necessary in the event of depressurization.

§ 29. Operational instructions transmitted during flight

145. Operational instructions involving a change to a filed or current ATS flight plan shall, whenever practicable, be agreed with the appropriate ATS unit before they are transmitted to the flight crew.

Note: In cases where the above coordination has not been possible, the operational instructions do not relieve the pilot of the responsibility to obtain appropriate clearance from the ATS unit, if applicable, before a change to the flight plan is made.

§ 30. Instrument flight procedures

146. For each instrument runway or aerodrome used for instrument flight operations, one or more instrument approach procedures designed to support instrument approaches shall be approved and published by the State in which the aerodrome is located.

147. All aircraft operating under instrument flight rules shall comply with instrument flight procedures approved by the State in which the aerodrome is located.

§ 31. Operational methods for reducing aircraft noise

148. Operational methods for reducing aircraft noise comply with the provisions of Volume I of PANS-OPS (Doc 8168).

149. It is essential that the operational noise reduction methods established by the operator for any type of aircraft be the same for all aerodromes. A single method may not meet the requirements at some aerodromes.

§ 32. Aircraft flight rules concerning climb and descent rates

150. Unless otherwise specified in an air traffic control instruction, in order to avoid unnecessary airborne collision avoidance system (ACAS II) resolution advisories being issued to aircraft at or approaching adjacent altitudes or flight levels, an operator should establish procedures under which an aeroplane climbing or descending to a designated altitude or flight level, particularly with the autopilot engaged, may do so at a speed less than 8 m/s or 1 500 ft/min (depending on the instrumentation available) during the last 300 m (1 000 ft) of the climb or descent to the designated flight level when the pilot knows that another aircraft is at or approaching an adjacent altitude or flight level.

§ 33. Rules for operating an aircraft taking into account landing characteristics

151. The approach shall not be continued below 300 m (1 000 ft) above aerodrome elevation unless the pilot-in-command is satisfied that, in accordance with the available information on the runway surface conditions, the performance characteristics of the aeroplane justify that a safe landing can be made.

Note: The rules, assessments and reporting of runway surface condition information are contained in APKR-14.

§ 34. Duties of the aircraft commander

152. The pilot-in-command is responsible for the safety of all crew members, passengers and cargo on board after the doors have been closed. The pilot-in-command is also responsible for the control and safety of the aircraft from the time the aircraft is ready to move for the purpose of takeoff until it comes to a complete stop at the end of the flight or the engine(s) used as the primary propulsion system are shut down.

153. The aircraft commander shall ensure that the checklist systems provided for in §7 of Chapter 4 of these Rules are observed.

154. The aircraft commander is responsible for notifying the nearest appropriate authority by the most expeditious means available to him of any occurrence involving the aircraft resulting in serious injury or death to any person or substantial damage to the aircraft or property.

Note: The definition of the term "serious bodily injury" is contained in ARCR-13.

155. The aircraft commander is responsible for reporting to the operator after completion of the flight any known or suspected defects in the aircraft and any failure to comply with the operator's established flight procedures.

156. The aircraft commander is responsible for maintaining the flight log and/or drawing up a general declaration containing the information listed in §4 of Chapter 11 of these Rules.

§ 35. Duties of the flight support officer/flight dispatcher

157. The Flight Operations Officer/Flight Dispatcher, when working in accordance with the method of control and supervision of flight operations in accordance with paragraph 42 of Chapter 4 of these Regulations, shall perform the following duties:

– assists the aircraft commander in preparing for the flight and provides relevant information;

– assists the aircraft commander in preparing the operational flight plan and the flight plan to be submitted;

– where applicable, assists the aircraft commander in preparing a preliminary flight plan and submits it to the unit designated by the appropriate ATS authority;

– signs, when applicable, and submits the flight plan to the unit designated by the appropriate ATS authority;

– provides the aircraft commander in flight with information, by appropriate means, that may be necessary for the safe conduct of the flight;

– notifies the appropriate ATS unit in the event that it is not possible to determine the position of the aircraft using aircraft tracking equipment and attempts to establish communication are unsuccessful.

Note: Flight plan requirements are contained in APKR-2, and regulations relating to flight plans and related services are contained in APKR-11.

158. In the event of an emergency, the Flight Operations Officer/Flight Dispatcher:

– initiates the implementation of procedures provided for in the flight operations manual and the Emergency Response Plan (ERP), while avoiding any action that would be contrary to ATC regulations;

– transmits to the pilot-in-command such safety information as may be necessary for the safe conduct of the flight, including information concerning any changes to the flight plan that become necessary during the course of that flight.

Note: It is equally important that during this flight the pilot-in-command also relays similar information to the Flight Operations Officer/Flight Dispatcher, particularly in the context of emergency situations.

§ 36. Additional requirements for the performance of flights of aircraft with gas turbine engines with a duration of more than 60 minutes to an alternate airport on the route, including the performance of flights with an extended diversion time to an alternate airport (EDTO)

Requirements for the operation of flights longer than 60 minutes to an en-route alternate airport

159. Operators operating flights of more than 60 minutes duration from any point en route to an en route alternate aerodrome shall ensure that:

– for all aircraft:

а) alternate airfields along the route were identified;

б) flight crews are provided with up-to-date information regarding designated en-route alternate airfields, including flight operations status and meteorological conditions;

– Flight crews of twin-engine turboshaft powered aircraft are provided with up-to-date information that conditions at en-route alternate aerodromes will meet or exceed the appropriate aerodrome operating minima established for the operator's operations during the expected time of use.

160. In addition to the requirements specified in paragraph 159 of these Rules, all operators shall ensure that the following provisions are taken into account and that the overall level of flight safety provided for in these Rules is maintained:

– procedures for operational control and flight control support of aircraft;

– operating procedures;

– training programs.

§ 37. Requirements for the performance of flights with extended diversion time to an alternate aerodrome (EDTO)

161. Unless the Civil Aviation Authority has issued a special approval for EDTO, an aeroplane with two or more turbine engines shall not be operated on a route where the EDTO time from any point en route, calculated under ISA conditions and in calm conditions at cruising speed with one engine inoperative for aeroplanes with two turbine engines and at cruising speed with all engines operating for aeroplanes with more than two turbine engines, to an en-route alternate exceeds the threshold time established for such operations by the Civil Aviation Authority. The special approval shall specify the appropriate threshold time established for each specific aeroplane and engine combination.

Note: Any flight with a diversion time exceeding the threshold time is considered an EDTO flight.

162. For EDTO flights, the take-off aerodrome and/or the destination aerodrome may be considered as en-route alternate aerodromes.

163. When issuing a special approval for EDTO operations, the Civil Aviation Authority shall determine the maximum diversion time in respect of each specific aeroplane and engine combination.

164. A special approval for EDTO operations and the corresponding maximum diversion time for an operator of a particular aeroplane type shall be issued subject to the following:

– for all aircraft: the operator shall apply procedures that prevent the aircraft from being released for en-route flight if the diversion time exceeds the time limits established for EDTO flights in the event of failure of the most critical system, as specified (directly or indirectly) in the aircraft flight manual;

– For twin-turbine aircraft: The aircraft has been certified for EDTO operations.

Note: Some documents refer to ETORS instead of EDTO.

165. Notwithstanding other requirements of these Regulations, the Civil Aviation Authority may, on the basis of the results of a specific safety risk assessment by an operator that demonstrates measures to ensure an equivalent level of safety, issue a special approval for operations of duration exceeding the shortest operating time of the most time-limited system. Such an assessment shall include an assessment of at least the following:

– operator capabilities;
– overall reliability of the aircraft;
– reliability of each time-limited system;
– relevant information from the aircraft manufacturer;
– specific measures to minimize unsafe consequences.

166. For all aircraft performing EDTO flights, the additional fuel required in subparagraph g) of paragraph 107 §18 of Chapter 4 includes the fuel required to perform the EDTO flight scenario with a critical fuel reserve in accordance with the established provisions of the Civil Aviation Authority.

167. The flight shall not proceed beyond the threshold time unless the suitability of the intended en-route alternates has been reassessed and the most recent information indicates that conditions at the en-route alternates at the expected time of use will meet or exceed the appropriate aerodrome operating minima established for the operator's operations. If any conditions are found to preclude safe approach and landing at an aerodrome at the expected time of use, a contingency plan shall be established.

168. The maximum time for diversion to an alternate airfield for aircraft with two gas turbine engines is established taking into account the following:

– reliability of the propulsion system;
– the aircraft type is certified for EDTO flights in accordance with airworthiness standards;
– EDTO maintenance program.

169. An approval for operations on a route where the one-engine-inoperative cruising time to an en-route alternate exceeds the threshold time issued for a twin-turbine engine aeroplane type prior to 25 March 1986 shall be extended by the Civil Aviation Authority after further review of such previously issued approval and on the basis of requirements that may have been introduced and are in force after the date specified therein.

§ 38. Hand luggage

170. The operator shall ensure the proper and secure placement of all baggage carried on board the aircraft and in the passenger cabin.

§39. Additional requirements for the performance of flights under instrument flight rules (IFR) or at night on aircraft operated by a single pilot

171. The aircraft is operated under IFR or at night by a single pilot only if there is permission from the Civil Aviation Authority to carry out such flights.

172. An aircraft may be operated under IFR or at night by a single pilot only if:

– the flight manual does not require the flight crew to include more than one pilot;

– the aircraft is propeller driven;

– the maximum approved number of seats is no more than nine;

– the maximum certified take-off weight does not exceed 5,700 kilograms;

– the aircraft is equipped with the equipment specified in §34 of Chapter 6 of these Rules;

– the aircraft commander meets the requirements regarding experience, training, verification and duration of breaks in duty set out in §12 of Chapter 9 of these Rules.

§ 40. Fatigue control

173. The Civil Aviation Authority shall establish regulations for the purpose of fatigue control. These regulations shall be based on scientific principles, knowledge and operational experience to ensure that flight and cabin crew members perform their functions at an appropriate level of alertness. Accordingly, the Civil Aviation Authority shall establish:

– regulations regarding flight time standards, flight duty time, duty time and rest time requirements;

– rules regarding the fatigue risk management system (FRMS), if the operator is permitted to use an FRMS for fatigue management purposes.

174. The Civil Aviation Authority shall require the operator, in accordance with paragraph 173 of Chapter 4 of these Regulations and for the purpose of managing fatigue-related safety risks, to develop:

– flight time standards, flight duty time, duty time and rest time requirements that comply with fatigue control regulations established by the Civil Aviation Authority; or

– a fatigue risk management system (FRMS) that meets the requirements of paragraph 179 of Chapter 4 of these Regulations in respect of all types of operations; or

– an FRMS system that meets the requirements of paragraph 179 of Chapter 4 of these Regulations with respect to certain types of flights performed and the requirements of the second paragraph of this clause with respect to other types of flights.

175. Compliance with prescriptive fatigue management regulations does not relieve an operator of its responsibility to manage its risks, including fatigue-related risks, through its safety management system (SMS) in accordance with the provisions of APCR-19.

176. Where an operator uses fatigue management regulations for some or all of its operations, the Civil Aviation Authority may, in exceptional cases, approve deviations from those regulations based on a risk assessment submitted by the operator. Any deviations approved shall provide an equivalent or higher level of safety to that provided by the fatigue management regulations.

177. The civil aviation authority approves an operator's FRMS before it is used to replace part or all of the fatigue management regulations. An approved FRMS provides an equivalent or higher level of safety to the fatigue management regulations.

178. The Civil Aviation Authority that approves an operator's FRMS shall develop a procedure to ensure that the FRMS provides an equivalent or higher level of safety to the fatigue management regulations. As part of this procedure, the Civil Aviation Authority shall:

– requires the operator to establish maximum values for flight time and/or flight duty time and duty time and minimum values for rest time. These values are based on scientific principles and knowledge, take into account safety assurance processes and are acceptable to the Civil Aviation Authority;

– requires a reduction in maximum values and an increase in minimum values if the operator's data shows that these values are respectively too high or too low;

– Based on accumulated FRMS experience and fatigue data, approves any increase in maximum values or decrease in minimum values only after evaluating the justification for these changes provided by the operator.

Note: Flight safety processes are described in Appendix 6 to these Rules.

179. When an operator implements an FRMS to manage fatigue-related safety risks, the operator shall, at a minimum:

– creates FRMS based on scientific principles and knowledge;

– continuously identifies fatigue-related safety hazards and the resulting risks;

– ensures that corrective actions necessary to effectively reduce the risks associated with these hazardous factors are taken promptly;

– ensures continuous monitoring and regular assessment of the reduction in fatigue-related risks achieved as a result of such actions;

– ensures continuous improvement of the overall functioning of the FRMS.

Note: Provisions relating to the protection of flight safety data and information and related sources are contained in APC-19.

180. When an operator uses an FRMS, consideration should be given to ensuring that it is integrated with the operator's SMS.

181. The operator shall maintain records of flight time, flight duty time, duty time and rest time for all members of its flight and cabin crews for such period of time as determined by the Civil Aviation Authority.

Chapter 5. Operational limitations of aircraft performance characteristics

§ 1. General Provisions

182. Aircraft registered in the Kyrgyz Republic shall be operated in accordance with comprehensive and detailed performance standards established or adopted by the Kyrgyz Republic, as well as the requirements of this Chapter and Chapter 5 of Annex 6, Part 1, to the Convention on International Civil Aviation to the extent that this does not conflict with the standards specified herein established (adopted) by the Kyrgyz Republic or with the requirements of this Chapter.

183. The level of performance of aircraft registered in the Kyrgyz Republic and to which the provisions of Part IIIA and IIIB of Annex 8 to the Convention on International Civil Aviation do not apply as constituting an exception in accordance with Article 41 of the Convention, shall comply with the requirements of this Chapter to the extent practicable.

§ 2. Performance operating limitations applicable to aircraft certified in accordance with the requirements contained in Parts IIIA and IIIB of Annex 8 to the Convention on International Civil Aviation.

184. The requirements contained in §2 and §3 of this Chapter inclusive shall apply to heavy aeroplanes to which the provisions of Part IIIA and IIIB of Annex 8 to the Convention on International Civil Aviation apply.

185. The level of performance defined by the relevant parts of the comprehensive and detailed national standards referred to in paragraph 182 of this chapter and relating to the aeroplanes referred to in paragraph 184 of this chapter shall be at least essentially equivalent to the general level required by the provisions of this chapter.

186. The aircraft is operated in accordance with the provisions of the certificate of airworthiness and within the approved operating limitations contained in the flight manual for that aircraft.

187. The civil aviation authority shall take such precautions as are reasonably practicable to ensure that the general level of safety envisaged by these provisions is maintained under all anticipated operating conditions.

188. A flight shall commence only when the performance information contained in the flight manual and, where necessary, supplemented by other data acceptable to the Civil Aviation Authority, indicates that the requirements of paragraphs 189–198 of this Chapter can be met for the intended flight.

189. In applying the requirements of this chapter, account shall be taken of all factors which significantly affect the performance of the aeroplane (including, but not limited to, aeroplane mass, operating procedures, pressure-altitude corresponding to aerodrome elevation, ambient air temperature, wind, runway slope

and runway surface conditions, i.e., snow, slush, water and/or ice for landplanes and water surface conditions for floatplanes). Such factors shall be taken into account directly as operating parameters or indirectly through tolerances or margins which may be included in establishing the performance specifications or included in the comprehensive and detailed performance standards under which the aeroplane is operated.

§ 3. Weight restrictions

190. The mass of the aircraft at the start of take-off does not exceed the mass specified in paragraph 194 of these Rules, or the mass specified in paragraphs 196, 197 and 198 of these Rules, taking into account the expected decrease in mass during the flight and the dumping of fuel for reasons provided for in the provisions of paragraphs 196 and 197 of these Rules, and in relation to alternate aerodromes - in the provisions of paragraphs 193 and 198 of these Rules.

191. The mass of the aeroplane at the start of take-off shall in no case exceed the maximum take-off mass specified in the flight manual for the pressure altitude corresponding to the aerodrome elevation and for any other local atmospheric conditions if they are used as a parameter for determining the maximum take-off mass.

192. The estimated mass of the aeroplane at the estimated time of landing at the destination aerodrome and at any destination alternate aerodrome shall in no case exceed the maximum landing mass specified in the flight manual for the pressure altitude corresponding to the elevation of these aerodromes and for other local atmospheric conditions if they are used as a parameter for determining the maximum landing mass.

193. The mass of the aeroplane at the start of take-off or at the estimated time of landing at the destination aerodrome and at any destination alternate aerodrome shall in no case exceed the appropriate maximum mass at which compliance of the aeroplane with the applicable noise certification requirements contained in APCR-16 has been demonstrated, unless permission has been obtained by way of exception for certain aerodromes or runways where noise disturbance is not a problem from the authority of the State in which the aerodrome is located.

194. Take-off. The aeroplane is capable, in the event of failure of a critical engine at any point during take-off or for other reasons, of either aborting the take-off and stopping within the rejected take-off distance available, or continuing the take-off and clearing all obstacles along the flight path at a sufficient vertical or horizontal distance from them until the aeroplane is able to comply with the requirements contained in paragraph 196 of these Rules. In determining the complete obstacle clearance area during take-off, operational conditions such as crosswind component and navigation accuracy must be taken into account.

195. When determining the available runway length, the possible loss of some of its part due to the need to bring the aircraft to the centerline before takeoff is taken into account.

196. En-route flight with one engine inoperative. The aircraft is capable, in the event of failure of a critical engine at any point along the route or planned alternate routes in case of deviation from it, of continuing the flight to an aerodrome where the requirements contained in paragraph 198 of these Rules can be met, without descending at any point to an altitude lower than the minimum absolute flight altitude.

197. En-route flight with two engines inoperative. For flights by aeroplanes with three or more engines on any portion of a route where the location of en-route alternates and the total duration of the flight are such that the possibility of a second engine failure must be taken into account in order to maintain the overall level of safety required by the requirements of this chapter, the aeroplane, in the event of the failure of any two engines, shall be capable of continuing the flight to an en-route alternate and landing.

198. Landing. The aircraft is capable of landing at the intended landing aerodrome or any alternate aerodrome after clearing all obstacles along the approach path with the minimum margin of safety and with assurance that it can stop or, in the case of a floatplane, attain a sufficiently low speed within the landing distance available. This takes into account anticipated differences in piloting technique during approach and landing, if these have not been taken into account when establishing the performance characteristics.

§ 4. Information about obstacles

199. Provides obstacle information to enable operators to develop appropriate one-engine-inoperative en-route procedures. Obstacle information provision methods are contained in APCR-4.

200. The operator shall take into account the accuracy of the charts when assessing compliance with the provisions of paragraph 196 of these Rules.

§ 5. Additional requirements for flights at night and/or in instrument meteorological conditions (IMC) on aircraft with one gas turbine engine

201. In the Kyrgyz Republic, aircraft with one gas turbine engine are not registered.

Chapter 6. On-board instruments, equipment and flight documentation

Requirements concerning the provision of an aircraft with onboard communication and navigation equipment are contained in Chapter 7 of these Rules.

§ 1. General Provisions

202. In addition to the equipment required to obtain a certificate of airworthiness, the instruments, equipment and flight documentation prescribed in the following paragraphs, depending on the aircraft used and the conditions under which the flight is to be performed, shall be installed or carried on board the aircraft as necessary. The prescribed instruments and equipment, including their installation, shall be approved by the Civil Aviation Authority.

203. On board the aircraft there shall be an officially certified copy of the air operator certificate and an original copy of the operational specifications relating to the aircraft type and established in connection with such certificate.

204. The operator shall include in the flight operations manual a minimum equipment list (MEL) approved by the Civil Aviation Authority that enables the pilot-in-command to determine whether the flight can be commenced or continued from any intermediate point in the event of failure of any instrument, equipment or system. The Civil Aviation Authority shall ensure that the MEL it approves does not affect the compliance of the aeroplane with the airworthiness standards applicable in the State of Registry.

Note: Appendix 12 to these Rules contains guidance material regarding the minimum list of equipment.

205. In the absence of a typical minimum equipment list (MMEL), which is necessary for the development of a minimum equipment list (MEL) by the operator and subsequent approval by the Civil Aviation Authority, it is permitted to use the list of acceptable failures contained in the flight manual for a specific aircraft type.

206. The operator shall provide the maintenance personnel and flight crew of each type of aircraft operated with an aircraft flight manual, which shall contain procedures related to the operation of the aircraft in normal, abnormal and emergency situations. The manual shall contain detailed information on the aircraft systems and the checklists to be used. Human factors aspects shall be taken into account in the development of the manual.

§ 2. Aircraft operated on the basis of the agreement provided for in Article 83 bis

207. In cases where the Kyrgyz Republic, as the State of registry, is unable to perform properly the functions assigned to the State of registry by the Convention, in accordance with Article 83 bis of the Convention it shall transfer to the State of the operator, with the consent of the latter, those functions of the State of registry that can be performed more competently by that State of the operator. In the event that international transportation is performed jointly by aircraft registered in the Kyrgyz Republic and in any other State, the Kyrgyz Republic may conclude agreements with such State on the joint performance of the functions imposed on the State of registry by the requirements of these Regulations or the relevant Annexes to the Convention on International Civil Aviation. An aircraft operated pursuant to an agreement concluded in accordance with Article 83 bis shall carry on board an officially certified copy of the summary of the agreement in electronic or printed

form. In the event that the summary is not in English, an English translation shall be included.

208. When carrying out oversight (including ramp inspections) to determine the functions and responsibilities transferred under the agreement from the State of Registry to the State of the Operator, the civil aviation safety inspector shall have access to a summary of the agreement provided for in Article 83 bis.

209. A summary of the agreement shall be submitted by the State of Registry or the State of the Operator to ICAO together with the Article 83 bis agreement for registration with the ICAO Council.

Note.— The summary of the agreement submitted with the agreement provided for in Article 83 bis and registered with the Council of ICAO shall list all aircraft covered by the agreement. The certified copy kept on board in accordance with paragraph 207 need only identify the specific aircraft on which the copy is carried.

210. The summary of the agreement shall contain information about the specific aircraft and shall be provided in the format provided in Appendix 10 to these Rules.

§ 3. All aircraft: all flights

211. The aircraft is equipped with instruments that enable the flight crew to control the flight path of the aircraft, perform any required maneuvers by regulations, and comply with the operating limitations applicable to the aircraft under the expected operating conditions.

212. The aircraft is equipped with:

a) a supply of necessary medical supplies placed in easily accessible and marked places.

Medical supplies should include:

– one or more first aid kits, sealed with the date of the last and subsequent inspection of the contents of the kits, for use by cabin crew to provide assistance in cases of deterioration of health;

– for aircraft required to carry cabin crew as members of the flight crew, one universal prophylaxis kit (two for aircraft authorised to carry more than 250 passengers) intended for use by cabin crew members in providing assistance in cases of deterioration in health associated with a suspected infectious disease or illness resulting from contact with body fluids;

– for aircraft authorized to carry more than 100 passengers on segments of the route with a flight duration of more than 2 hours, a medical kit intended for use by physicians or other duly qualified persons in providing emergency medical care in flight.

Note: Guidance material concerning the types, quantities, locations and contents of medical supplies is provided in Appendix 9 to these Rules;

б) portable fire extinguishers of a type that, when used, do not create a dangerous concentration of toxic gases inside the aircraft. At least one fire extinguisher shall be installed:

– in the flight deck and

– in each passenger cabin that is separate from the flight deck and to which crew members do not have direct access.

Note: Any portable fire extinguisher installed in accordance with the airworthiness certificate of the aeroplane is considered to comply with this requirement.

в) a seat or berth for each person who has reached the age determined by the Civil Aviation Authority;

– a lap belt on each seat and restraint belts on each berth with labels on them containing a legible technical standard number;

– harnesses on each flight crew seat. The harness on each pilot seat includes a device that automatically limits the movement of the pilot's body in the event of sudden braking. The harness includes shoulder straps and a lap belt that can be used separately;

The harness system on each pilot seat must include a device that prevents the pilot from interfering with the control of the aircraft in the event of sudden loss of functionality.The harness system includes shoulder straps and a waist belt, which can be used separately;

г) means that ensure the communication of the following information and instructions to passengers:

– when it is necessary to fasten seat belts;

– when and how to use oxygen equipment if oxygen is provided on board the aircraft;

– when should you refrain from smoking;

– where life jackets or similar personal flotation devices are located and how they should be used if such devices are provided on board;

– where emergency exits are located and how they open;

д) spare electrical fuses of appropriate sizes to replace the fuses located in accessible locations during flight.

213. Any extinguishing agent used in the integral fire extinguishing system of the towel, paper, and waste receptacle in each lavatory of an airplane for which the individual certificate of airworthiness was first issued on or after December 31, 2011, and any extinguishing agent used in a portable fire extinguisher for an airplane for which the individual certificate of airworthiness was first issued on or after December 31, 2018:

– meets the minimum required characteristics applicable in the state of registration;

– does not belong to the type of substances that destroy the ozone layer.

Note: Information regarding fire extinguishing agents is contained inTechnical Note No. 1, "New Technical Alternatives to Halons," of the UNEP

Halon Technical Options Committee and FAA Report No. DOT/FAA/AR-99-63, "Alternatives to the Use of Halons in Aircraft Fire Extinguishing Systems."

214. The aircraft has on board:

– the flight operations manual prescribed in §4 of Chapter 4 of these Rules, or parts thereof that relate to flight operations;

– the flight manual or other documents with current revisions/amendments containing information on the performance characteristics required for the application of the provisions of Chapter 5 of these Rules, or any other information necessary for the operation of the aircraft in accordance with the certificate of airworthiness for air travel, if this data is not contained in the flight operations manual;

– detailed and user-friendly charts or EFBs that include the intended flight route and any route that might have to be taken if deviating from the main route.

§ 4. Marking of emergency fuselage opening locations

215. If the fuselage is provided with markings of places where rescue teams can easily open the fuselage in an emergency, these places are marked as shown below (see figure). The markings are applied in red or yellow paint and, if necessary, outlined with a white stripe for contrast with the surrounding background.

216. If the distance between corner marking signs exceeds 2 meters, intermediate lines measuring 9 x 3 centimeters are drawn between them in such a way that the distance between adjacent marking signs does not exceed 2 meters.

Note: The provisions of these Rules do not mean that all aircraft must be provided with emergency fuselage opening points.

§ 5. Flight recorders

217. Crash-resistant flight recorders include one or more of the following:

– flight data recorder (FDR),

- cockpit voice recorder (CVR),

- Airborne Ambient Light Recorder (AIR),

– data line recorder (DLR).

In accordance with Appendix 7 to these Regulations, visual situation and data link information may be recorded by either CARS or ADRS.

218. Lightweight flight recorders include one or more of the following: Airborne Data Recording System (ADRS), Cockpit Audio Recording System (CARS), Airborne Visual Recording System (AIRS), and/or Data Link Recording System (DLRS). Visual and data link information may be recorded by either CARS or ADRS.

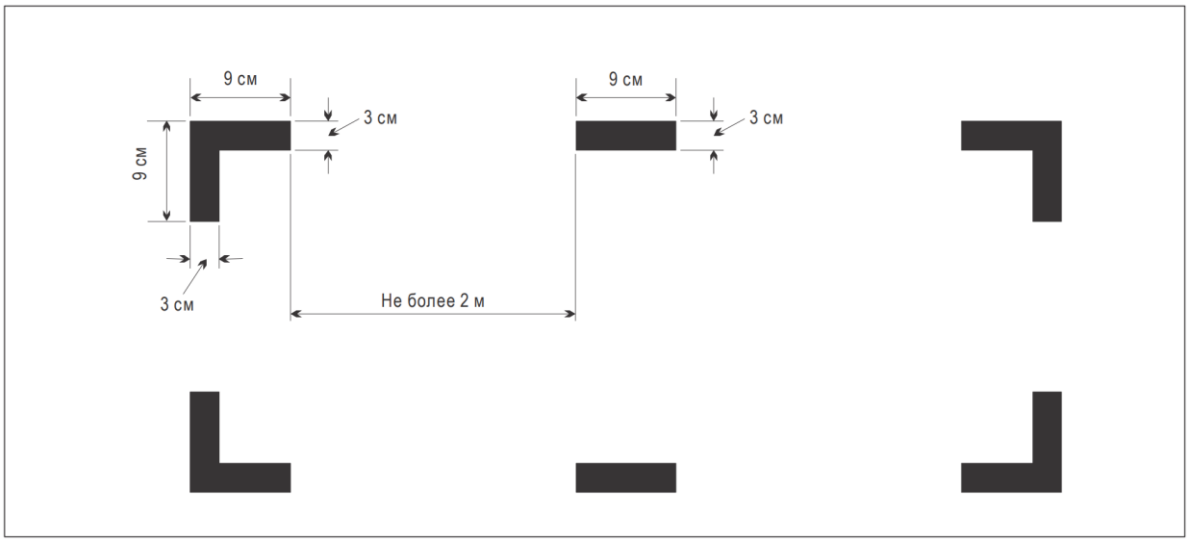
Detailed requirements for flight recorders are contained in Appendix 7 to these Rules.

Note: Technical requirements applicable to crash-resistant flight recorders for aeroplanes for which an application for type certification is submitted to a

Contracting State before 1 January 2016 can be found in EUROCAE documents ED-112, ED-56A, ED-55"Minimum Operating Performance Standards (MOPS)"or in other earlier similar documents.

Note: Technical requirements applicable to crash-resistant flight recorders for aeroplanes for which the application for type certification is submitted on or after 1 January 2016 can be found in EUROCAE ED-112A"Minimum Operating Performance Standards (MOPS)"or in other similar documents.

Note: Technical requirements applicable to lightweight aircraft flight recorders can be found in EUROCAE ED-155"Minimum Operating Performance Standards (MOPS)"or in other similar documents.



MARKING OF EMERGENCY OPENING POINTS OF THE FUSELAGE
(see §4 of Chapter 6 of these Rules)

§6. Flight data recorders and on-board data recording systems

The parameters to be registered are listed in Tables A7-1 and A7-3 of Appendix 7 of these Rules.

219. Types. Type I and Type IA flight data recorders (FDRs) record the parameters necessary to accurately determine the flight path, speed, attitude, engine thrust, configuration and flight mode of the aircraft.

220. Type II and Type IIA flight data recorders (FDRs) record the parameters necessary to accurately determine the aircraft's flight path, speed, attitude, engine thrust, and lift-and-drag configuration.

221. Applicability. All turbine-powered aeroplanes with a maximum certificated takeoff mass of 5,700 kilograms or less for which an application for type certification is submitted on or after 1 January 2016 shall be equipped with:

- FDRwhich record at least the first 16 parameters listed in Table A7-1 of Appendix 7 to these Regulations; or
- AIR or AIRS class C,which register at leastflight path and speed parameters displayed to the pilot(s);defined in paragraph 22 of Appendix 7 to these Rules;or
- ADRS that records at least the first 7 parameters specified in Table A7-3 of Appendix 7 to these Regulations.

"The date of application for a type certificate is the date of filing of the application for the initial "type certificate" and not the date of certification of individual variants or subsequent modifications of the basic model.

Note: AIR classification orAIRSis provided in Appendix 7 to these Rules.

222. All turbine-powered aeroplanes with a maximum certificated take-off mass of 5,700 kg or less for which the individual certificates of airworthiness were first issued on or after 1 January 2016 must be equipped with:

- FDRwhich record at least the first 16 parameters specified in Table A7-1Applications7 to these Rules; or

- Class C AIR or AIRS that record at least the flight path and speed parameters displayed to the pilot(s)as defined in paragraph 11Applications7 to these Rules; or

- ADRS, which registers, byat least the first 7 parameters,specified in Table A7-3 of Appendix 7 to these Rules.

223. All aircraft with a maximum certificated take-off mass greater than 27,000 kg whose individual certificates of airworthiness were first issued on or after 1 January 1989 shall be equipped with an FDR,which records at least the first 32 parameters specified in Table A7-1Applications7 to these Rules.

224. All aircraft with a maximum certificated take-off mass of over 5,700 kg and up to and including 27,000 kg, whose individual certificates of airworthiness were first issued on or after 1 January 1989, shall be equipped with an FDR,which records at least the first 16 parameters specified in Table A7-1Applications7 to these Rules.

225. All multiengine turbine-powered aeroplanes with a maximum certificated take-off mass of 5,700 kg or less whose individual certificates of airworthiness were first issued on or after 1 January 1990 must be equipped with an FDR.which records at least the first 16 parameters specified in Table A7-1Applications7 to these Rules.

226. All turbine powered aeroplanes, the individual certificates of airworthiness of which were first issued before 1 January 1989, with a maximum certificated take-off mass of over 5700 kg, except those specified in paragraph 228 of Chapter 6 of these Regulations, shall be equipped with an FDR,which records at least the first five parameters specified in Table A7-1Applications7 to these Rules.

227. All turbine-powered aeroplanes for which individual certificates of airworthiness were first issued on or after 1 January 1987 but before 1 January 1989, with a maximum certificated take-off mass exceeding 5,700 kg, except those specified in paragraph 228 of Chapter 6 of these Regulations, shall be equipped with an FDR,which records at least the first 9 parameters specified in Table A7-1Applications7 to these Rules.

228. All turbine-powered aeroplanes for which individual certificates of airworthiness were first issued on or after 1 January 1987 but before 1 January 1989, with a maximum certificated take-off mass exceeding 27,000 kg, which are of types whose prototype was certified by the appropriate national authority after 30 September 1969, shall be equipped with an FDR.which records at least the first 16 parameters specified in Table A7-1Applications7 to these Rules.

229. All turbine engine powered aeroplanes for which the individual certificate of airworthiness was first issued before 1 January 1987, with a maximum certificated take-off mass exceeding 27,000 kg, which are of types whose prototype was certified by the appropriate national authority after 30 September 1969, must be equipped with an FDR, which must be recorded in addition tothe first 5 parameters specified in Table A7-1Applications7 to these Rules,such additional parameters as are necessary for the purposes of determining:

– the spatial position of the aircraft on the flight path;

– the main forces acting on the aircraft and determining its flight path, as well as the origin of such main forces.

230. All aircraft with a maximum certificated take-off mass greater than 5,700 kilograms for which individual certificates of airworthiness were first issued after January 1, 2005, are equipped with an FDR.which records at least the first 78 parameters specified in Table A7-1Applications7 to these Rules.

231. All aeroplanes with a maximum certificated take-off mass greater than 5 700 kg for which the application for a type certificate is submitted on or after 1 January 2023 shall be equipped with an FDR capable of recording at least the 82 parameters specified in Table A7-1 of Annex 7.Tothese Rules.

232. All aeroplanes with a maximum certificated take-off mass greater than 5 700 kg for which individual certificates of airworthiness are first issued on or after 1 January 2023 must be equipped with an FDR capable of recording at least the 82 parameters specified in Table A7-1 of Annex 7.Tothese Rules.

233. FDR and ADRS recording technologies do not use mechanical recording on foil, frequency modulation (FM) recording, film recording or magnetic tape recording.

234. Recording duration. All FDRs retain information recorded during at least the last 25 hours of their operation, with the exception of FDRrecorders installed on aircraft referred to in paragraph 225 of Chapter 6 of these Rules, on which the FDR, retain information recorded during at least the last 30 minutes of their operation,as well as sufficient information from the previous takeoff for calibration purposes.

§ 7. Cockpit voice recorders and cockpit sound recording systems

235. Applicability. All turbine-powered aeroplanes with a maximum certificated take-off mass greater than 2,250 kg and up to and including 5,700 kg, for which the application for a type certificate is submitted on or after 1 January 2016 and which are operated by more than one pilot, shall be equipped with either a CVR or a CARS.

236. All turbine-powered aeroplanes with a maximum certificated takeoff mass of 5,700 kg or less, individual certificates of airworthiness that are first issued on or after January 1, 2016, and that are operated by more than one pilot must be equipped with either a CVR or a CARS.

237. All aeroplanes with a maximum certificated take-off mass greater than 5,700 kg whose individual certificates of airworthiness were first issued on or after 1 January 2003 shall be equipped with a CVR capable of retaining information recorded during at least the last 2 hours of its operation.

238. All aircraft with a maximum certificated take-off weight greater than 5,700 kilograms (12,500 pounds) and individual certificates of fitness ribbon first issued on or after January 1, 1987, are equipped with a CVR.

239. All turbine-powered airplanes with individual certificates of airworthiness first issued before January 1, 1987, with a maximum certificated take-off mass greater than 27,000 kilograms, and of types whose prototype was certified after September 30, 1969, shall be equipped with a CVR.

240. All turbine-powered aeroplanes with individual certificates of airworthiness first issued before 1 January 1987, with a maximum certificated take-off mass in excess of 5,700 kg and up to and including 27,000 kg, of types whose prototype was certified after 30 September 1969, must be equipped with a CVR.

241. Registration technologyCVR and CARS do not use tape or wire recording.

242. Recording duration: All CVRs store information recorded during at least the last 2 hours of their operation.

243. All aeroplanes with a maximum certificated take-off mass greater than 27,000 kg, with individual certificates of airworthiness first issued on or after 1 January 2022, shall be equipped with a CVR that retains information recorded during at least the last 25 hours of their operation.

244. All aircraft required to be equipped with CARS and individual certificates of airworthiness that are first issued on or after January 1, 2025, shall be equipped with CARS capable of retaining information recorded during at least the last 2 hours of their operation.

245. Backup power supply for the cockpit voice recorder. The backup power supply is automatically activated and provides for 10 minutes (± 1 min) of CVR operation in the event that the aircraft loses electrical power to the recorder, or this occurs as a result of a normal power outage or interruption of its supply for any other reason. The backup power supply provides electrical power to the CVR and its associated microphones installed in the cockpit. The CVR shall be located as close as possible to the backup power supply.

Note: "Standby" means separate, independent of the primary power source supplying power to the CVR. Use of aircraft batteries or other power sources is acceptable provided the above requirements are met and the power supply to essential loads is not jeopardized or the electrical system is not overloaded.

Note: When the CVR function is combined with other recording functions in one unit, it is allowed to provide power supply to other functions as well.

246. All aeroplanes with a maximum certificated take-off mass greater than 27,000 kg for which an application for type certification is submitted on or after 1 January 2018 shall be equipped, in accordance with the definition in paragraph 245

of Chapter 6 of these Regulations, with a backup power source that supplies electrical power to the primary CVR when a combination of recorders is used.

247. All aeroplanes with a maximum certificated take-off mass greater than 27,000 kg, with individual certificates of airworthiness first issued on or after 1 January 2018, shall be equipped, in accordance with the requirements of paragraph 245 of Chapter 6 of these Regulations, with an alternate power source that at least provides electrical power to one CVR.

§ 8. Data line recorders

248. Applicability. On all aeroplanes for which individual certificates of airworthiness are first issued on or after 1 January 2016 that use any of the data link communications applications referred to in Appendix 7 to these Regulations and are provided with a CVR, messages transmitted over such data link communications shall be recorded by a crash-resistant flight recorder.

249. On all aeroplanes for which individual certificates of airworthiness are first issued on or after 1 January 2016 for the purpose of installing and using any of the data link communications applications referred to in paragraph 45 of Appendix 7 to these Regulations, messages transmitted over such data link communications shall be recorded by a crash-resistant flight recorder.except where the installed data link communications equipment complies with an aircraft type or modification certificate that was issued or first approved before 1 January 2016.

Note: Examples of data link message logging requirements are contained in Table I-5 of Appendix 17.

Note: A Class B AIR may provide a means of recording messages associated with data link communications applications transmitted to and from an aircraft where it is impractical or prohibitively expensive to record messages associated with data link communications applications on an FDR or CVR..

Note: "Aircraft modifications" means modifications to install data link communications equipment on an aircraft (e.g. design, wiring).

250. On all aeroplanes, individual certificates of airworthiness first issued before 1 January 2016, on which a CVR is provided and which are modified on or after 1 January 2016 to use any of the data link communications applications referred to in paragraph 45 of Annex 7 to these Regulations, communications transmitted over such a data link shall be recorded by a crash-resistant flight recorder.

251. Recording duration. The minimum recording duration is equal to the recording duration on the CVR.

252. Correlation. Provides the ability to correlate data line recordings with cockpit audio recordings.

§ 9. Registration of the interaction "flight crew - machine"

253. Applicability

All aeroplanes with a maximum take-off mass greater than 27,000 kg for which an application for a type certificate is submitted on or after 1 January 2023 shall be equipped with a crash-resistant flight recorder that records information displayed to the flight crew on electronic displays and the operation of switches and controls by the flight crew as defined in Appendix 7 to these Regulations.

254. All aeroplanes with a maximum take-off mass greater than 5,700 kg and up to and including 27,000 kg for which an application for a type certificate is submitted on or after 1 January 2023 shall be equipped with a crash-resistant flight recorder that records information displayed to the flight crew on electronic displays and the operation of switches and controls by the flight crew as defined in Appendix 7 to these Regulations.

255. Recording duration

The minimum duration of the flight crew-vehicle interaction recording is at least the last two hours.

256. Correlation

It provides the ability to correlate records of the flight crew-machine interaction with records of the sound environment in the cockpit.

§ 10. Flight recorders. General provisions

257. Design and Installation. Flight recorders shall be designed, located and installed to provide the maximum practicable protection for the recordings for the purpose of preserving, retrieving and deciphering the recorded data. Flight recorders shall meet the prescribed specifications for impact resistance and fire protection.

258. Operation. Flight recorders are not switched off during flight time.

259. In order to preserve the records of the flight recorders, the latter are switched off at the end of the flight time following an accident or incident. The flight recorders are not switched on again until the procedure for issuing records has been completed, as provided for in the provisions of APKR-13.

260. The need to seize the recordings made by the on-board recorder of the aircraft shall be determined by the competent authority of the State in which the investigation is being conducted, taking into account the seriousness of the incident and its circumstances, including the operational implications.

Note.The provisions on the operator's responsibility for the preservation of flight recorder records are contained in §6 of Chapter 11 of these Rules.

261. Maintaining operational suitability. During operation, checks and assessments of the flight recorder systems' records shall be conducted to ensure that the flight recorders maintain their operational suitability. Procedures for inspecting flight recorder systems are provided in Appendix 7 to these Rules.

262. Electronic Flight Recorder Documentation. Documentation related to FDR and ADRS parameters provided by operators to accident investigation authorities shall be in electronic format, taking into account industry specifications.

Note: Industry specifications for documentation related to flight recorder parameters can be found in ARINC 647A, Flight Recorder Electronic Documentation, or similar document.

263. Combination recorders. All aeroplanes with a maximum certificated take-off mass greater than 5,700 kg for which the application for type certificate is submitted on or after 1 January 2016 and which are required to be equipped with both a CVR and an FDR, must be equipped with two combination recorders (FDR/CVR).

264. All aeroplanes with a maximum certificated take-off mass greater than 15,000 kg for which the application for a type certificate is submitted on or after 1 January 2016 and which are required to be equipped with both a CVR and an FDR shall be equipped with two combination flight recorders (FDR/CVR). One flight recorder shall be located as close to the flight deck as practicable and the second flight recorder shall be located as far aft as practicable.

265. All aeroplanes with a maximum certificated take-off mass greater than 5,700 kg, which are required to be equipped with both an FDR and a CVR, may alternatively be equipped with two combined flight recorders (FDR/CVR).

Note. The requirement of paragraph 263 of these Rules may be met by equipping aircraft with two combined recorders (one in the front section and the other in the tail section) or separate devices.

266. All multi-engine turbine-powered aeroplanes with a maximum certificated take-off mass of 5,700 kg or less that are required to be equipped with an FDR and/or CVR may alternatively be equipped with a single combination flight recorder (FDR/CVR).

§ 11. Recovery of flight recorder data

267. All aeroplanes with a maximum certificated take-off mass greater than 27,000 kg, authorized to carry more than 19 passengers, and for which the application for type certificate is submitted on or after 1 January 2021, shall be equipped with a means approved by the Civil Aviation Authority for the timely recovery and provision of flight recorder data.

268. In approving the means for the timely provision of flight recorder data, the Civil Aviation Authority shall take into account the following:

- operator capabilities;
- general capabilities of the aircraft and its systems, certified by the state of the developer;
- reliability of the means of reconstructing the corresponding CVR channels and the corresponding FDR data;
- specific preventive measures.

§ 12. All aircraft operating VFR flights

269. All aircraft operating VFR flights are equipped with:

- magnetic compass;
- an accurate chronometer indicating time in hours, minutes and seconds;
- precise barometric altimeter;

– airspeed indicator;

– other additional devices or equipment as may be prescribed by the Civil Aviation Authority.

270. Aircraft that perform controlled flights under VFR are equipped in accordance with the requirements of §13 of this chapter.

§ 13. All aircraft: flights over water surfaces. Seaplanes

271. All seaplanes are equipped with the following equipment when performing any flights:

– one life jacket or equivalent personal flotation device for each person on board; these devices shall be positioned so that they can be easily reached from the seat or berth occupied by the person for whom they are intended;

– equipment giving the sound signals prescribed by the International Regulations for Preventing Collisions at Sea, where applicable;

– one sea anchor (floating).

Note: The category "seaplanes" includes amphibious aircraft operated as seaplanes.

§ 14. Land-based aircraft

272. Land-based aircraft have on board the equipment specified in paragraph 273 of these Rules:

– when flying over water areas at a distance of more than 93 km (50 NM) from the shore, when it comes to land-based aircraft operated in accordance with the provisions of paragraphs 203 and 204 of these Rules;

– when flying en route over water at a distance from the shore exceeding the maximum flight range in gliding mode, when it comes to all other land-based aircraft;

– when taking off or landing at an aerodrome where, in the opinion of the Civil Aviation Authority, the take-off or landing approach path passes over water in such a way that in the event of any incident there is a possibility of a forced landing on water.

273. The equipment referred to in paragraph 272 of these Rules consists of life jackets or equivalent individual flotation devices, one for each person on board, and they are arranged in such a way that the person can easily reach the flotation device intended for him from his seat or berth.

Note: The category "landplanes" includes amphibious aircraft operated as landplanes.

Life jackets accessible from seats or berths in crew rest areas are required only where the seats or berths concerned are certified for use during takeoff and landing.

§ 15. All aircraft: long-range flights over water

274. On all aeroplanes engaged on flights on routes on which the aeroplane may be over water or at a distance from the ground suitable for an emergency landing corresponding to 120 minutes of flight time at cruising speed or 740 km (400 NM), whichever is less, if the aircraft is flown in accordance with 196 or 197, and at a distance corresponding to 30 minutes of flight time or 185 km (100 NM), whichever is less, for all other aircraft, the following equipment shall be installed, in addition to the equipment required by §13 or §14 of this Chapter, as appropriate:

– life rafts sufficient to accommodate all persons on board, so arranged as to facilitate their rapid use in an emergency and provided with such life-saving equipment, including means of life support, as is appropriate to the conditions of the flight to be undertaken;

– equipment for sending distress signals using signal rockets described in APKR-2;

– As soon as possible, but not later than 1 January 2018, all aircraft with a maximum certificated take-off mass greater than 27,000 kg shall be equipped with underwater propulsion devices operating at a frequency of 8.8 kHz in accordance with safety regulations. The minimum operating time of such an automatically activated underwater propulsion device is 30 days, and it is prohibited to install it inside the wings or tail unit.

Note: The technical requirements for the underwater locating beacon (ULB) are contained instandard,establishing minimum performance requirements for low-frequency underwater drive devices(acoustic) (with autonomous power supply),Vdocument AS6254 SAE or other similar documents.

275. Every lifejacket and equivalent individual flotation device, when carried on board in accordance with the provisions of §13 and §14 of this Chapter, shall be equipped with electric lighting to facilitate the detection of persons, except where other individual flotation devices are provided in place of lifejackets in accordance with the requirements of §11 of this Chapter.

§ 16. All aircraft: flights over specially designated land areas

276. When flying over land areas which have been designated by the State concerned as areas in which search and rescue are particularly difficult, aeroplanes shall be provided with such signalling devices and life-saving equipment (including means of sustaining life) as may be appropriate to the conditions of the area being flown.

§ 17. All aircraft: high-altitude flights

The value of absolute altitude in standard atmosphere, which approximately corresponds to the following value of absolute pressure:

Absolute pressure	Meters	Feet
700 hPa	3,000	10,000
620 hPa	4,000	13,000
376 hPa	7 600	25,000

277. An aircraft that is intended for flights at absolute altitudes where the atmospheric pressure in the cabins of the flight crew and passengers is less than 700 hPa, is equipped with equipment for storing and supplying oxygen, a supply of which must be kept on board in accordance with paragraph 120 of Chapter 4 of these Rules.

278. An aircraft which is intended for flights at absolute altitudes where the atmospheric pressure is less than 700 hPa, but which is equipped with means for maintaining the pressure in the cabins of the flight crew and passengers at a level exceeding 700 hPa, shall be equipped with equipment for storing and supplying oxygen, a supply of which must be kept on board in accordance with paragraph 121 of Chapter 4 of these Rules.

279. Pressurized aeroplanes placed into service on or after 1 July 1962 and intended for operation at altitudes where the atmospheric pressure is less than 376 hPa shall be equipped with means of warning the flight crew of any dangerous degree of depressurization.

280. Pressurized aeroplanes placed into service before 1 July 1962 and intended for flight at altitudes where the atmospheric pressure is less than 376 hPa shall be equipped with means of warning the flight crew of any dangerous degree of depressurization.

281. An aeroplane which is intended to be flown at altitudes where the atmospheric pressure is less than 376 hPa or which, if flown at altitudes where the atmospheric pressure is greater than 376 hPa, cannot descend safely within 4 minutes to an altitude where the atmospheric pressure is 620 hPa and for which the individual certificate of airworthiness was issued on or after 9 November 1998, shall be equipped with automatically deployable oxygen equipment in accordance with the requirements of paragraph 121 of Chapter 4 of these Regulations. The total number of oxygen devices exceeds the number of seats for passengers and cabin crew members by at least 10%.

282. An aeroplane which is intended to be flown at altitudes where the atmospheric pressure is less than 376 hPa, or which, if flown at altitudes where the atmospheric pressure is greater than 376 hPa, cannot descend safely within 4 minutes to an altitude where the atmospheric pressure is 620 hPa, or for which the individual certificate of airworthiness was issued before 9 November 1998, shall be equipped with automatically deployable oxygen equipment in accordance with the requirements of paragraph 121 of Chapter 4 of these Regulations. The total number of oxygen devices shall exceed the number of seats for passengers and cabin crew members by at least 10%.

§ 18. All aircraft: flights in icing conditions

283. All aircraft shall be equipped with suitable continuous and/or intermittent anti-icing devices when they are operated in conditions in which icing is known to occur or is suspected of occurring.

§ 19. All aircraft: flights under instrument flight rules

284. All aircraft, when operated under instrument flight rules or when it is impossible to maintain their desired attitude without the use of one or more flight instruments, shall be equipped with:

– magnetic compass;

– an accurate chronometer indicating time in hours, minutes and seconds;

– two accurate barometric altimeters with counter and drum-and-pointer readout or equivalent data indication;

Note: Neither a three-pointer altimeter nor a drum-and-pointer altimeter meets the requirement stated above;

– an airspeed indication system equipped with a device that prevents its failure due to condensation or icing;

– direction and slip indicator;

– attitude indicator (horizon);

– course indicator (gyrocompass);

Note. The requirements contained in paragraphs 7, 8 and 9 of this clause may be met by using combined instruments or integrated flight command systems, provided that the same guarantee against total failure is maintained as is provided for each of the three instruments mentioned above;

– a device indicating whether the gyroscopic instrument is supplied with sufficient electrical power;

– an outside air temperature indicator installed in the flight crew cabin;

– vertical speed of climb and descent indicator.

§ 20. All aircraft over 5700 kg: emergency power supply for electrical instruments indicating the aircraft's spatial attitude

285. All aeroplanes having a maximum certificated take-off mass in excess of 5,700 kg which were placed into service after 1 January 1975 shall be provided with an emergency power source independent of the main electrical supply system and capable of providing, for at least 30 minutes, the operation and illumination of an instrument indicating the attitude of the aircraft (the artificial horizon) clearly visible to the pilot-in-command. The emergency power source shall be automatically activated after total failure of the main electrical supply system, and a clear

indication shall be given on the instrument panel that the artificial horizon(s) of the aircraft are(are) operating from the emergency power source.

286. The instruments used by each pilot are arranged so that the pilot can easily see their readings from his seat, with little change in his normal position, looking in the direction of the flight path.

§ 21. All aircraft: night flights

287. All aircraft performing night flights are equipped with:

– all types of equipment listed in §13 of this chapter;

– lights required by APKR-2 for aircraft in flight or on the aerodrome operating area;

Note. Technical requirements for lights that meet the requirements of APKR-2 for navigation lights are contained in Appendix 1 to these Rules.

– two landing lights.

Note: Aeroplanes which are not certified in accordance with the provisions of APC-8 and which are equipped with a single landing light with two filaments having a separate power supply will be considered as complying with the provisions of this paragraph.

– illumination for all instruments and equipment that are essential for the safe operation of the aircraft and that are used by the flight crew;

– lamps in all passenger compartments;

– an autonomous portable lamp at the workplace of each crew member.

§ 22. Pressurized aircraft engaged in passenger transport: Weather radar

288. Pressurized aeroplanes engaged in passenger transport operations shall be equipped with weather radar when such aeroplanes are operated in areas where thunderstorms or other potentially hazardous weather conditions may be expected en route that can be detected by weather radar either at night or under instrument meteorological conditions.

§ 23. All aircraft operating at altitudes above 15,000 m (49,000 ft): radiation level indicator

289. All aircraft intended to fly at altitudes above 15,000 m (49,000 ft) are equipped to continuously measure and indicate the total dose rate of cosmic radiation received (i.e., the total amount of ionizing and neutron radiation of galactic and solar origin) and the total dose for each flight. The display unit for this equipment is clearly visible to one of the flight crew members.

Note: This equipment is calibrated based on assumptions acceptable to the relevant national authorities.

§ 24. All aircraft that comply with the contained Noise Certification Standards

290. On board the aircraft is an aircraft noise certificate issued by the Civil Aviation Authority based on the aircraft manufacturer's noise type certificate.

§ 25. Mach number indicator

291. All aircraft whose speed rating is expressed in Mach number are equipped with a Mach number indicator.

Note: This provision does not prevent the use of the airspeed indicator for calculating Mach number for ATS purposes.

§ 26. Aircraft to be equipped with Ground Proximity Warning Systems (GPWS)

292. All turbine-powered aircraft with a maximum certified take-off weight exceeding 5,700 kg or with a permitted passenger capacity of more than 9 passengers are equipped with a ground proximity warning system that includes a terrain assessment function in the direction of flight.

293. The operator shall implement database management procedures to ensure that current terrain and obstacle data used by the ground proximity warning system are distributed and updated in a timely manner.

294. All turbine-powered aeroplanes with a maximum certificated take-off mass of 5,700 kg or less and authorized to carry more than 5 but not more than 9 passengers and whose individual certificates of airworthiness were first issued on or after 1 January 2026 shall be equipped with a ground proximity warning system that provides warning of excessive descent rate and excessive loss of altitude after takeoff or go-around, warning of insufficient terrain clearance, and a forward terrain awareness function.

295. All piston engine powered airplanes with a maximum certificated take-off mass in excess of 5,700 kilograms or authorized to carry more than nine passengers shall be equipped with a ground proximity warning system providing warning of excessive rate of descent and excessive loss of altitude after take-off or go-around, warning of insufficient terrain clearance and having a function of assessing the terrain in the direction of flight.

296. The Ground Proximity Warning System provides automatic, timely and clear warnings to the flight crew of potentially hazardous proximity to the earth's surface.

297. The ground proximity warning system will operate, unless otherwise specified, in the following cases:

а) excessive rate of descent;

б) excessive speed of approach to the earth's surface;

в) excessive loss of altitude after takeoff or go-around;

г) insufficient clearance above the terrain when flying in a configuration that does not correspond to the landing configuration;

- the chassis is not locked in the released position;
- the position of the flaps does not correspond to the landing position;

д) excessive descent below the instrument approach glide path.

§ 27. Cabin crew positions on aircraft carrying passengers

298. Aeroplanes for which individual certificates of airworthiness were first issued on or after 1 January 1981 shall be equipped with a forward-facing or rearward-facing seat (at an angle of up to 15° to the longitudinal axis of the airplane), fitted with a restraint system, for use by each member of the cabin crew whose duties include compliance with the provisions of Chapter 12, paragraph 424, relating to emergency evacuation.

299. Aeroplanes for which individual certificates of airworthiness were first issued before 1 January 1981 shall be equipped with a forward-facing or rearward-facing seat (at an angle of up to 15° to the longitudinal axis of the airplane), fitted with a restraint system, for use by each member of the cabin crew whose duties include compliance with the provisions of Chapter 12, paragraph 424, concerning emergency evacuation.

Note: The harness system includes shoulder straps and a seat belt, which can be used separately.

300. The cabin crew member seats installed in accordance with paragraphs 298 and 299 of this chapter shall be located near emergency exits at floor level and other emergency exits provided for emergency evacuation.

§ 28. Emergency locator transmitter (ELT)

301. All aircraft must have an automatic ELT on board.

302. Except as provided in paragraph 303 of these Rules, all aircraft permitted to carry more than 19 passengers shall be equipped with at least one automatic ELT or two ELTs of any type.

303. All aircraft authorized to carry more than 19 passengers and whose individual airworthiness certificates were first issued after July 1, 2008, shall be equipped with:

- at least two ELTs, one of which is automatic; or
- at least one ELT and have the functionality that meets the requirements of §29 of this chapter.

Note: If another system meets the requirements of §29 of this chapter, automatic ELT is not required.

304. Except as provided in paragraph 305 of these Rules, all aircraft authorized to carry 19 or fewer passengers shall be equipped with at least one ELT of any type.

305. All aircraft authorized to carry 19 or fewer passengers and for which individual certificates of airworthiness were first issued after July 1, 2008, shall be equipped with at least one automatic ELT.

306. ELT equipment installed on board in accordance with the requirements of paragraphs 301-305 of these Rules shall operate in accordance with the relevant provisions of APCR-10.

The correct selection of the number of ELTs, their type and their placement on the aircraft and associated life-support floats will ensure the highest probability of ELT deployment in the event of an accident involving an aircraft flying over water or land, including areas particularly difficult for search and rescue. The placement of the transmitter units is an important factor in ensuring their optimum protection against damage and fire. The placement of control and activation devices (activation monitors) for automatic fixed ELTs and the associated operating procedures are also determined taking into account the need for rapid detection of accidental activation and convenient manual activation by crew members.

§ 29. Determining the location of an aircraft in distress

307. Starting from January 1, 2025, allaircraft with a maximum certified take-off weight of more than27,000kg,individual airworthiness certificates of which were issued for the first time1January2024year or after this date,if they are in distress,transmit information autonomously at least every minute,on the basis of which the operator can determine their location,in accordance with the provisions of the Appendix8 to these Rules.

308. All aeroplanes of a maximum certificated take-off mass greater than 5 700 kg for which individual certificates of airworthiness were first issued on or after 1 January 2023, when in distress, shall, at least every minute, autonomously transmit information from which their position can be determined, in accordance with the provisions of Annex 8 to these Regulations.

309. The operator shall provide information about the aircraft in distress to the appropriate organizations determined by the Civil Aviation Authority.

§ 30. Aircraft that must be equipped with an Airborne Collision Avoidance System (ACAS II)

310. The operator shall ensure that aircraft with turbine engines, whose maximum certified take-off mass exceeds 5,700 kg or which are authorized to carry more than 19 passengers, are equipped with an airborne collision avoidance system (ACAS II TCAS 7.1).

311. All aircraft must be equipped with an airborne collision avoidance system (ACAS II TCAS 7.1).

312. The on-board collision avoidance system shall operate in accordance with the requirements of the relevant provisions of Volume IV of Annex 10 to the Convention on International Civil Aviation.

§ 31. Requirements concerning transponders transmitting data on barometric altitude

313. All aircraft shall be equipped with a pressure-altitude reporting transponder which shall operate in accordance with the relevant provisions of Volume IV of Annex 10 to the Convention on International Civil Aviation.

314. All aeroplanes for which an individual certificate of airworthiness is first issued after 1 January 2009 shall be equipped with a data source that provides pressure altitude information with an accuracy of 7.62 metres (25 ft) or better.

315. All aircraft are equipped with a data source that provides pressure altitude information with an accuracy of 7.62 meters (25 feet) or better.

316. The Mode S transponder shall be provided with airborne/ground status data if the aircraft is equipped with automatic means of detecting such status.

Note: These provisions will enhance the effectiveness of airborne collision avoidance systems and air traffic services using Mode S radar. In particular, tracking functions are significantly improved at an accuracy of 7.62 m (25 ft) or better.

Mode S transponder replies always report pressure altitude in 30.50 m (100 ft) increments regardless of the accuracy of the original data.

§ 32. Microphones

317. All flight crew members required to be in the cockpit to perform their official duties shall communicate using directional microphones or throat microphones when flying below the flight level/transition altitude.

§ 33. Turbojet aircraft. Wind shear advance warning system

318. All turbojet aircraft with a maximum certificated take-off mass greater than 5,700 kilograms or authorized to carry more than 9 passengers must be equipped with a wind shear advance warning system.

319. The wind shear advance warning system shall be capable of providing the pilot with a visual and audible warning in a timely manner of the presence of wind shear ahead of the aircraft, as well as other information to enable the pilot to safely initiate and continue a rejected approach, a missed approach, or take necessary action to avoid the hazard. The system shall also inform the pilot of the approach to the certification limits of the automatic approach equipment, where such equipment is used.

§ 34. All aircraft operated by a single pilot under instrument flight rules (IFR) or at night

320. To issue a permit in accordance with paragraph 171 of Chapter 4 of these Rules, all aircraft operated by a single pilot under IFR or at night shall be equipped with:

– a functioning autopilot with, at a minimum, altitude stabilization and course selection modes;

– headphones with a directional microphone or other similar device;

– a means of displaying maps that allows them to be read in any ambient lighting conditions.

§ 35. Aircraft equipped with Automatic Landing Systems, Head-Up Display (HUD) or equivalent displays, Enhanced Vision Systems (EVS), Synthetic Vision Systems (SVS) and/or Combined Vision Systems (CVS)

321. When aircraft are equipped with automatic landing systems, HUDor equivalent indicators, EVS, SVSorCVS,or any combination of such systems within a hybrid system, criteriaThe use of these systems to ensure the safety of aircraft flights is established by the Civil Aviation Authority.

§ 36. Electronic Flight Bags (EFB). EFB Equipment

322. In those cases,when portable devices are used on board an aircraftEFB,the operator takes measures to ensure that,so that they do not disrupt the operation of the aircraft's systems,equipment or did not interfere with the ability to operate the aircraft.

§ 37. EFB functions

323. When using an EFB on board an aircraft, the operator:

– assesses the safety risks associated with each EFB function;

– establishes and documents procedures for the use of the equipment and each EFB function and training requirements;

– ensures that, in the event of an EFB failure, sufficient information is provided to the flight crew to safely conduct the flight.

324. The civil aviation authority issues special approval for the use of EFB functions to ensure the safety of aircraft operations.

§ 38. Special approval of EFB

325. When issuing a special approval for the use of an EFB, the Civil Aviation Authority shall ensure that:

– the EFB equipment and associated mounting hardware, including the interface with aircraft systems where applicable, meet the relevant airworthiness certification requirements;

– the operator has assessed the safety risks associated with the operations supported by the EFB function(s);

– the operator shall establish requirements for the redundancy of information (if appropriate) provided and displayed by the EFB function(s);

– the operator establishes and documents procedures for the management of the EFB function(s), including any databases it may use;

– The operator shall establish and document procedures for the use of the EFB and the EFB function(s) and training requirements therefor.

§ 39. Runway Overrun Alert and Warning System (ROAAS) for Gas Turbine Powered Aircraft

326. All turbine-powered aeroplanes with a maximum certificated take-off mass exceeding 5,700 kg and whose individual airworthiness certificates were first issued on or after 1 January 2026 shall be equipped with a runway overrun awareness and notification system (ROAAS).

Note: Guidance material regarding the design of a ROAAS system is contained in EUROCAE ED-250, Minimum Operational Performance Standards (MOPS) for a Runway Overrun Awareness and Alert System (ROAAS) or equivalent documents.

Chapter 7. On-board communication, navigation and surveillance equipment

§ 1. Communication equipment

327. The aircraft is equipped with radio communications equipment capable of:

– maintain two-way communications for the purpose of airfield control services;

– receive meteorological information at any time during the flight;

– maintain two-way communications at all times during flight with at least one aeronautical station and with such other aeronautical stations and on such frequencies as may be prescribed by the appropriate authority.

Note: The requirements of paragraph 327 of these Rules are considered to be met if the ability to maintain communications specified here is demonstrated under normal radio wave propagation conditions for the given route.

328. Communication on the aviation emergency frequency 121.5 MHz shall be provided using the radio equipment required in accordance with paragraph 327 of these Rules.

329. When performing flights where communication equipment must comply with the RCP specification for performance-based communications (PBC), the aircraft, in addition to meeting the requirements specified in paragraph 327 of these Rules:

– is equipped with communications equipment that will enable it to perform flights in accordance with the established RCP specification;

– has information on the aircraft's ability to meet the RCP specifications specified in the flight manual or other aircraft documentation approved by the State of Design or the State of Registry;

– has information on the aircraft's ability to meet the RCP specifications included in the MEL.

330. For operations where an RCP specification for PBC is established, the Civil Aviation Authority shall ensure that the operator establishes and documents:

– routine and non-routine procedures, including contingency plans;

– requirements for the level of qualification and training of flight crew in accordance with the relevant RCP specifications;

– a training program for relevant personnel in accordance with the objectives of the planned activity;

– proper maintenance procedures to maintain airworthiness in accordance with the relevant RCP specifications.

331. The civil aviation authority shall ensure that, in relation to the aircraft referred to in paragraph 329 of these Rules, there are appropriate provisions concerning:

– receiving reports on the noted communication characteristics from monitoring programs established in accordance with paragraph 3.3.5.7 of Chapter 3 of APCR-11.

– taking immediate corrective action against specific aircraft, aircraft types or operators identified in such reports as not complying with the RCP specification requirements.

§ 2. Navigation equipment

332. The aircraft is equipped with navigation equipment that will allow it to fly:

– in accordance with the flight plan and

– in accordance with the requirements of air traffic services, except in cases where (unless prohibited by the Civil Aviation Authority) navigation during a VFR flight is carried out by establishing visual contact with ground references.

333. When operating in a flight where a performance-based navigation (PBN) navigation specification is established, the aircraft, in addition to complying with the requirements specified in paragraph 332 of these Rules:

– is equipped with navigation equipment that will enable it to perform flights in accordance with the established navigation specification(s);

– has information on the aircraft's ability to comply with the navigation specifications specified in the flight manual or other aircraft documentation approved by the State of Design or the Civil Aviation Authority;

– has information on the aircraft's ability to comply with the navigation specifications included in the MEL.

334. For operations where a navigation specification for PBN has been established, the Civil Aviation Authority shall ensure that the operator establishes and documents:

– routine and non-routine procedures, including contingency plans;

– requirements for the level of qualification and training of flight crew in accordance with relevant navigation specifications;

– a training program for relevant personnel in accordance with the objectives of the planned activity;

– proper maintenance procedures to maintain airworthiness in accordance with the relevant navigation specifications.

Note: Management of electronic navigation data is an integral part of routine and non-routine procedures.

335. The Civil Aviation Authority specifically approves flights based on authorized required (AR) PBN navigation specifications.

336. When flying in certain areas of airspace where, in accordance with a regional air navigation agreement, minimum navigation performance specifications (MNPS) are provided, navigation equipment shall be installed on board the aircraft that:

– provides the flight crew with a continuous indication of whether the track is being maintained or not, with the required degree of accuracy, at any point along that track and

– approved by the Civil Aviation Authority for use in flights with the appropriate MNPs.

337. For operations in certain portions of the airspace where, on the basis of regional air navigation agreement, a reduced vertical separation minimum (RVSM) of 300 metres (1 000 ft) applies between flight levels 290 and 410 inclusive:

– The aircraft is equipped with equipment that can provide:

а) flight level indication in the cockpit,on which the flight is carried out;

б) maintaining the selected flight level in automatic mode;

в) warning crew members of the presence of a deviation from the selected flight level.The threshold deviation value for issuing a warning does not exceed±90meters(300foot);

г) Automatic presentation of barometric absolute altitude data;

– The Civil Aviation Authority issues a special approval for operations under RVSM conditions;

– demonstrates the characteristics of vertical navigation in accordance with Appendix 3 to these Rules.

338. Before issuing a special RVSM approval, the Civil Aviation Authority shall ensure that:

– the aircraft's capability to perform vertical navigation meets the requirements specified in Appendix 3 to these Rules;

– the operator has established appropriate procedures related to continuing airworthiness practices and programs (maintenance and repair);

– The operator has implemented appropriate procedures for flight crews to operate in RVSM airspace.

Note: A special RVSM approval is valid globally provided that any region-specific operating procedures are reflected in the Operations Manual or appropriate crew guidance material.

339. The Civil Aviation Authority, in consultation with the State of Registry where necessary, shall ensure that, in respect of the aircraft referred to in paragraph 343 of Chapter 7 of these Regulations, adequate provisions are in place concerning:

– receiving reports on height-keeping characteristics from control agencies established in accordance with paragraph 3.3.5.6 of APCR-11, and

– taking urgent corrective action on individual aircraft or typical groups of aircraft identified in such reports as not meeting the height-keeping requirements for operations in RVSM airspace.

340. The Civil Aviation Authority that has issued a special RVSM approval to an operator shall establish a requirement that ensures that the height-keeping performance of at least two aeroplanes of each aircraft type group is monitored at least once every two years or at intervals of 1,000 flight hours per aeroplane, whichever is longer. If the operator's aircraft type group includes one aeroplane, that aeroplane shall be monitored during the specified period.

Note: Monitoring data obtained under any regional monitoring programme established in accordance with the provisions of APCR-11 may be used to meet this requirement.

341. The civil aviation authority shall establish provisions and procedures to ensure that appropriate action is taken with respect to aircraft and operators of other States operating in RVSM airspace without a valid RVSM approval.

Note.—These provisions and procedures are to take into account the situation where the aircraft in question is operating without special approval in the airspace of the State and the situation where an operator for which the State has oversight responsibility is operating without the required special approval in the airspace of another State.

342. The aircraft shall be equipped with navigation equipment sufficiently such that, in the event of failure of one of the elements of the equipment at any stage of the flight, the aircraft shall be able to continue its flight in accordance with paragraph 332 of these Rules and, where appropriate, paragraphs 333, 336 and 337 of these Rules.

343. For flights where landing under instrument meteorological conditions is planned, the aircraft shall be equipped with radio equipment capable of receiving signals that will assist in guiding the aircraft to a point from which a visual landing can be made. This equipment shall be capable of providing such guidance at each

airfield where landing under instrument meteorological conditions is planned and at any designated alternate airfields.

§ 3. Surveillance equipment

344. The aircraft is equipped with surveillance equipment that enables it to fly in accordance with air traffic service requirements.

345. For flights where surveillance equipment is required to comply with the RSP specification for performance-based surveillance (PBS), the aircraft, in addition to meeting the requirements specified in paragraph 344 of these Rules:

– is provided with surveillance equipment that will enable it to fly in accordance with the established RSP specification(s);

– has information on the aircraft's ability to meet the RSP specifications specified in the aircraft's flight manual or other documentation approved by the State of Design or the Civil Aviation Authority;

– has information on the aircraft's ability to meet the RSP specifications included in the MEL.

346. For operations where an RSP specification for PBS is established, the Civil Aviation Authority shall ensure that the operator establishes and documents:

– routine and non-routine procedures, including contingency plans;

– requirements for the level of qualification and training of flight crew in accordance with the relevant RSP specifications;

– a training program for relevant personnel in accordance with the objectives of the planned activity;

– proper maintenance procedures to maintain airworthiness in accordance with the relevant RSP specifications.

347. The civil aviation authority shall ensure that, in relation to the aircraft referred to in paragraph 345 of these Rules, there are appropriate provisions concerning:

– receiving reports on the observed characteristics of observations from control programs established in accordance with Chapter 3 of APCR-11;

– taking immediate corrective action against specific aircraft, aircraft types or operators identified in such reports as not complying with the RSP specification requirements.

§ 4. Installation of equipment

348. The installation of the equipment shall be such that the failure of any single element necessary for communication, navigation or surveillance, or any combination thereof, does not result in the failure of any other element necessary for navigation, communication or surveillance.

§ 5. Management of electronic navigation data

349. An operator shall not use electronic navigation data products processed for airborne and ground use unless the Civil Aviation Authority has approved the operator's procedures to ensure that the process used and the products delivered meet acceptable integrity standards and are compatible with the intended function of the existing equipment that will use them. The Civil Aviation Authority shall ensure that the operator maintains control of the process and products.

Note: Guidance material regarding processes that data providers may follow is contained in RTCA DO-200A/EUROCAE ED-76 and RTCA DO-201A/EUROCAE ED-77.

350. The operator shall implement procedures to ensure the timely distribution and inclusion of current and unaltered electronic navigation data to all aircraft requiring it.

Chapter 8. Maintaining Airworthiness of Aircraft

Note: The term "aircraft" as used in this chapter includes engines, propellers, components, auxiliary units, instruments, equipment and apparatus, including emergency rescue equipment.

§ 1. Duties of the operator to maintain airworthiness

351. Operators shall ensure that, in accordance with procedures acceptable to the Civil Aviation Authority:

– every aircraft they operate is maintained in airworthy condition;

– the operational and emergency equipment necessary for the planned flight was in good working order;

– the airworthiness certificate of each aircraft they operate is valid.

352. An operator shall not operate an aircraft unless maintenance on the aircraft, including any relevant engine, propeller or part, has been performed:

– an organization that meets the requirements of Chapter 5 of the APCR-8, which is approved by the Civil Aviation Authority or another Contracting State and is acceptable to the Civil Aviation Authority.

– by a person or organization in accordance with procedures approved by the Civil Aviation Authority;

– and no maintenance certificate has been issued for the maintenance performed.

353. The operator shall employ a person or group of persons who shall ensure that all maintenance work is carried out in accordance with the maintenance control manual.

354. The operator shall ensure that the maintenance of its aircraft is carried out in accordance with the maintenance program.

§ 2. Operator's Manual for Regulation of Technical Maintenance

355. The operator shall ensure that a maintenance regulatory manual acceptable to the Civil Aviation Authority is available and is used as a guidance document by the relevant maintenance and operational personnel and meets the requirements§2 Chapter 11 of these Rules. The principles related to the human factor are observed in the development of this manual.

356. The operator shall ensure that the maintenance control manual is amended as necessary to bring the information contained therein into compliance with current requirements.

357. Copies of all amendments to the operator's maintenance control manual shall be promptly distributed to all organizations or persons to whom the manual has been provided.

358. The operator shall provide to the Civil Aviation Authority copies of the Aircraft Maintenance Manual with all amendments, additions and/or revisions thereto, as well as such mandatory materials as the Civil Aviation Authority may require.

§ 3. Maintenance program

359. The operator ensures the availabilityapproved by the Civil Aviation Authoritymaintenance program, which is used as an instructional document by the relevant personnel involved in maintenance and operation and contains the information specified in §3 of Chapter 11 of these Rules. When developing and applying the maintenance program, the operator shall take into account human factors aspects.

360. Copies of all amendments to the maintenance program shall be promptly distributed to all organizations and persons to whom the maintenance program has been provided.

§ 4. Registered data on continued airworthiness

361. The operator shall ensure the storage of the following recorded data during the periods specified in paragraph 362 of these Rules:

а) total operating time (respectively hours, calendar time and cycles) of the aircraft and all units with a limited service life;

б) current information on compliance with all mandatory information on continuing airworthiness;

в) relevant detailed data on modifications and repairs;

г) operating time (respectively hours, calendar time and cycles) after the last major overhaul of the aircraft or its units, in compliance with the mandatory service life between repairs;

д) current information on compliance with the aircraft maintenance program;

е) detailed maintenance data that demonstrates that all requirements have been met when signing the maintenance certificate.

362. The registered data specified in paragraphs a)-d) of clause 361 of these Rules shall be stored for 90 days after the final decommissioning of the relevant unit, and the registered data specified in paragraph e) of clause 361 of these Rules shall be stored for at least one year after the signing of the maintenance certificate.

363. In the event of a temporary change of operator, the registered data shall be provided to the new operator. In the event of any permanent change of operator, the registered data shall be transferred to the new operator.

Note: In the context of paragraph 363, the decision as to what should be considered a temporary change of operator is to be made by the Civil Aviation Authority in the light of the need to exercise control over the recorded data, which will depend on access to and the ability to update it.

364. The registration of data stored and transmitted in accordance with this paragraph shall be carried out in a form and format that ensures their readability, security and integrity on a permanent basis.

Note: These data may be in the form and format of paper-based records, film-based records, electronic records, or any combination of these types of records.

§ 5. Information on maintaining airworthiness

365. The operator of an aeroplane whose maximum certificated take-off mass exceeds 5,700 kg shall monitor, summarize and evaluate the maintenance and operating experience with respect to continuing airworthiness and shall provide the information prescribed by the Civil Aviation Authority using the system specified in APC-8.

366. An operator of an aeroplane of a maximum certificated take-off mass exceeding 5 700 kilograms shall receive and evaluate information and recommendations regarding continuing airworthiness from the organization responsible for the type design and shall take such action as is considered necessary in accordance with a procedure acceptable to the Civil Aviation Authority.

§ 6. Modifications and repairs

367. All modifications and repairs shall comply with the airworthiness requirements adopted by the Civil Aviation Authority and rules shall be established to ensure that data demonstrating compliance with airworthiness requirements are reviewed, approved and stored.

§ 7. Approved maintenance organization

368. The approved maintenance organization meets the requirements of Chapter 6 "Approval of the maintenance organization" of APCR-8.

§ 8. Certificate of technical maintenance

369. If the maintenance is performed by an approved maintenance organization, a maintenance certificate shall be issued by the approved maintenance organization in accordance with the provisions of APCR-8.

370. If the maintenance work is not performed by an approved maintenance organization, a maintenance certificate shall be completed and signed by a person holding an appropriate certificate issued in accordance with APCR-1 to certify that the maintenance work performed has been satisfactorily completed in accordance with approved data and procedures acceptable to the Civil Aviation Authority.

371. If maintenance is not performed by an approved maintenance organization, the following information shall be included on the maintenance certificate:

– basic details of the maintenance performed, including details of the approved data used;

– the date of completion of such maintenance;

– details of the person or persons who signed the certificate.

Chapter 9. Flight crew of the aircraft

§1. Composition of the flight crew

372. The flight crew shall meet requirements in number and composition that are not less than those specified in the flight operations manual. The flight crew shall be increased in number from the minimum required number specified in the flight manual or in other documents related to the airworthiness certificate in cases where this is required by the type of aircraft used, the type of flight performed and the duration of the flight between two points at which the flight crew is changed.

373. For each flight, the operator shall designate a pilot as the PIC to operate the airplane who holds a commercial pilot certificate or an air transport pilot certificate.

374. When the operating documentation for an aircraft requires a second pilot, the operator shall designate for each flight a pilot who holds an air transport pilot certificate, a commercial pilot certificate or a multi-crew pilot certificate to operate the aircraft.

375. The operator shall designate a pilot as a supervised PIC who holds a commercial pilot licence or an air transport pilot licence and has logged at least one thousand flight hours to operate the aircraft. The pilot shall act as a supervised PIC as part of a crew that includes a PIC who has logged at least 500 flight hours as PIC on the aircraft type in question.

§ 2. Flight radio operator

376. The flight crew shall include at least one person holding a valid certificate issued or validated in accordance with the provisions of APCR-1 and which authorizes the operation of the radio transmitting equipment to be used.

§ 3. Flight engineer

377. When the design of an aeroplane provides a separate workstation for a flight engineer, the flight crew shall include at least one flight engineer who is specifically assigned to that workstation unless his duties can be performed satisfactorily by another flight crew member holding a flight engineer certificate without prejudice to his normal duties.

§ 4. Navigator

378. The flight crew shall include at least one person holding a navigator's certificate in accordance with the provisions of APCR-1 in all cases where the navigation necessary for the safe execution of the flight cannot be sufficiently performed by the pilots in the performance of their direct duties.

§ 5. Duties of flight crew members in emergency situations

379. The operator shall, depending on the type of aircraft (and in accordance with the Flight Manual), determine the necessary functions of all flight crew members that they must perform in an emergency or in a situation requiring an emergency evacuation of people. The training program organized by the operator shall provide for annual training in these functions, including training in the methods and procedures for the use of all emergency rescue equipment that must be carried on board, and training in the emergency evacuation of people from the aircraft.

§ 6. Flight Crew Training Program

380. The operator shall prepare and implement a ground and flight training program, which shall be approved by the Civil Aviation Authority and shall ensure that all flight crew members are adequately prepared to perform their assigned duties. This training program shall:

– includes initial, periodic and transition (conversion) training, as well as re-certification courses, advanced training, introductory training, training on differences and other types of specialized training;

– includes ground and flight training facilities, as well as teachers and instructors of appropriate qualifications, as provided for by the Aviation Rules of the Kyrgyz Republic. The operator specifies in the RPP the periods, type and duration of training/education of crews;

– consists of ground and flight training on the type(s) of aircraft on which the flight crew members operate;

– includes practicing interaction between flight crew members, as well as training in actions in all types of emergency and abnormal situations or conditions caused by engine, airframe or system malfunctions, fire or other negative factors;

– includes training in preventing and recovering from difficult spatial situations;

– includes training to develop knowledge and skills relating to visual and instrument flight procedures in the intended area of operation, charting, human performance characteristics including threat and error management, and the transport of dangerous goods;

– ensure that training is provided so that all flight crew members are aware of the functions for which they are responsible and how these functions relate to the functions of other flight crew members, particularly with regard to abnormal or emergency procedures;

– is repeated at specified intervals established by the Civil Aviation Authority and provides for an assessment of the training.

381. Flight training may, to the extent deemed appropriate by the Civil Aviation Authority, be carried out on flight simulation training devices approved by the Civil Aviation Authority for this purpose.

382. The amount of retraining required in accordance with§5 and §6of this chapter may vary and need not be as comprehensive as the amount of initial training provided on a particular aircraft type.

383. The recurrent ground training requirements may be satisfied by correspondence courses or written examinations, or by other established means at the discretion of the Civil Aviation Authority.

384. An operator shall not permit a member of the flight crew of an aircraft to perform his or her functions unless he or she has been trained in accordance with a training program developed by the operator that ensures that flight crew members are adequately prepared to perform their assigned duties and:

– provides ground and flight training facilities, as well as teachers and instructors of appropriate qualifications;

– consists of ground and flight training on the type(s) of aircraft on which the flight crew members operate;

– includes practicing interaction between flight crew members, as well as training in actions in all types of emergency and exceptional situations or conditions caused by malfunctions of the power plant, airframe or systems, fire or other negative factors;

– includes training for the acquisition of knowledge and skills relating to visual and instrument flight procedures in the intended flight area, limitations of human capabilities ("human factor"), including knowledge of the danger of their manifestation during flight operations, prevention of situations leading to exceeding the limitations of human capabilities, prevention of errors and their correction, transportation of dangerous goods by aircraft;

– ensures that training is provided so that all flight crew members are aware of the functions they are required to perform and how those functions relate to the functions of other members of the aircraft crew, including when performing abnormal or emergency procedures;

– provides for the following:

а) familiarization of a newly hired flight crew member with his duties and functions, and the operator's requirements for performing flights (conversion training) is carried out in the following cases:

1) In the case of flights on fixed-wing aircraft or helicopters, a flight crew member must complete the appropriate operator training program before commencing solo flights:

– when pilots or crew transfer to operate another type or class of aircraft that requires additional training;

– in the event of a transfer to another operator, where adaptation to its standards, procedures and requirements is required.

2) Conversion training for operators includes training with equipment installed on the aircraft in accordance with the functions of the flight crew members;

б) at least once every 12 consecutive months, training in aircraft emergency rescue equipment and training in land emergency evacuation procedures. The annual training programme in the use of emergency rescue equipment shall include the following:

– the actual donning of the life jacket, if fitted;

– actual donning of protective respiratory equipment (PBE, OXYGEN, etc.), if any;

– actual handling of fire extinguishers;

– briefing on the location and use of all emergency rescue equipment available on board the aircraft;

– instructions on the location and use of all types of exits;

– (aviation) security procedures.

в) training in the transportation of dangerous goods, including passing an examination, at least once within a consecutive 24 months if it is planned to carry dangerous goods;

г) water emergency evacuation procedures training at least once every 36 consecutive months. Every 3 years the training program must include the following:

– actual operation of all types of outputs;

– demonstration of the method of controlling the ladder, if installed;

– actual fire fighting using equipment typical of that carried on board an aircraft in the event of an actual or simulated fire, except where an alternative method can be used when using fire extinguishers,

– exposure to smoke in the aircraft cabin, cabin and actual use of all relevant equipment in a simulated smoke environment;

– actual handling of pyrotechnics, real or simulated, if installed; and

– demonstration of the use of the life raft(s), if fitted.

д) at least once during the next 12 months, theoretical training for performing flights under special conditions, including passing an exam;

е) theoretical training and training in recovering an aircraft from a difficult spatial position, pre-stall conditions, and stall conditions, at least once during a consecutive 36 months;

ж) annual theoretical and recurrent training for flights in RVSM and RNP conditions, including passing an examination before commencing operations in these conditions on a newly mastered aircraft type, if flights in RVSM and RNP conditions are planned. RVSM and RNP training elements will be conducted in due time:

- transitional training (conversion training);
- periodic ground training;
- FSTD periodic training.

з) when performing international flights in the airspace of states that do not use the Russian language in radiotelephone communications - training and testing of knowledge of the English language in accordance with the requirementsAPKR-1,as well as the procedures for studying the rules set out in the aeronautical information publications of the State in whose airspace it is planned to operate flights;

и) at least once every 24 consecutive months, training in the field of aviation security;

к) at least once during the next 12 months, theoretical training for performing flights in wind shear conditions, including passing an examination, and training on a flight simulator, including verification;

л) at least once every 12 consecutive months, training in the performance of maneuvers and actions during ground proximity warning systems (CFIT), including passing an examination, and training in a flight simulator, including verification.The CFIT training program should be integrated into existing initial, annual and periodic training and inspection programs;

The operator shall include in its operating manual instructions and training requirements for CFIT prevention and a policy for the use of the GPWS.

м) theoretical training for the performance of flights with Ground Proximity Warning Systems (GPWS)/TAWS, including passing an examination, and training on a flight simulator, including a check, at least once during a consecutive 12 months, if it is planned to perform flights on aircraft equipped with (GPWS)/TAWS.

Training elements (GPWS)/TAWS will be conducted on time:

- transitional training (conversion training);
- periodic ground training;
- FSTD periodic training.

н) theoretical training in the performance of manoeuvres and actions when TCAS is activated, including passing an examination, and training in a flight simulator, including a check, at least once during a consecutive 12 months, if it is planned to operate in aircraft equipped with TCAS.

TCAS/ACAS training elements will be delivered on time:

– transitional training (conversion training);
– periodic ground training;
– FSTD periodic training.

The operator shall include in the operations manual the principles, instructions, procedures and training requirements regarding collision avoidance techniques and the use of the airborne collision avoidance system (ACAS);

о) at least once every 12 consecutive months, training in a flight simulator using a real en-route flight scenario (LPC);

п) at least once during a consecutive 12 months, theoretical training in knowledge of aircraft systems and the ability to determine its flight characteristics, including passing an exam;

р) at least once during the next 12 months, theoretical training for the performance of flights as a PIC from the right pilot's seat, including passing an exam, training on a flight simulator or on an aircraft, including a PIC check, if the performance of such flights is provided for in the RPP;

с) at least once during consecutive 12 months, theoretical training for performing approaches and landings in CAT II/III conditions and take-offs with runway visibility less than 400 m, including passing an exam, and training on a flight simulator, including a check, if it is planned to perform take-offs and landings in the specified conditions;

т) theoretical training (OPC) at least once during a consecutive period of 6 (maximum 7) months in the performance of normal flight procedures and in emergency response, including passing an examination, and training on a flight simulator, including a check;

у) at least once every 36 consecutive months, training in a flight simulator for failures of all systems not related to an emergency situation, including verification;

ф) at least once during consecutive 12 months, a check of the implementation of normal procedures on the aircraft (LINE CHECK);

х) at least once during a consecutive 36 months theoretical training and training in aircraft cockpit resource management(CRM);

ц) at least once every 12 consecutive months, an assessment of the aircraft cockpit resource management in a simulator and in an aircraft.

385. The requirement for recurrent flight training on a specific aircraft type is considered to be met if:

– to the extent deemed appropriate by the Civil Aviation Authority, flight simulation training devices approved by the Civil Aviation Authority for the purpose have been used; or

– a test of the level of training, as provided for in §11 of this chapter, was carried out after a certain period of time on this type of aircraft.

386. Recurrent ground training requirements may be satisfied through correspondence courses, distance learning, or written examinations.

§ 7. Qualification

387. Before being allowed to operate in the air, flight crew members, cabin crew members and flight operations officers/flight dispatchers of an aircraft operator must have the necessary training and qualifications.

388. General requirements regarding cross-training of crews, the implementation of flights on a mixed fleet of aircraft and the mutual accounting of experience are contained in APCR-1.

§ 8. Previous work experience of aircraft crew members

389. An operator shall not assign to a pilot-in-command or a first officer the control of an aeroplane of a particular type and/or modification of a type of aeroplane for take-off and landing unless each of them has, within the preceding 90 days, completed at least three take-offs and landings in an aeroplane of the same type or in a flight simulator approved for that purpose.

390. If the aircraft commander or the second pilot flies aircraft of different modifications of the same type or aircraft of different types but with similar operating characteristics and procedures, systems and controls, the Civil Aviation Authority shall decide under what conditions the requirements provided for in paragraph 389 of these Rules may be combined with respect to each modification or each type of aircraft.

391. An operator shall not assign a navigator or flight engineer (flight mechanic) to perform duties on an aircraft of a particular type or modification if, within the preceding 90 days, the said member of the aircraft's flight crew:

– failed to perform his duties on an aircraft of this type or its modification, or;

– has not completed refresher training, including normal, abnormal and emergency procedures, in an aircraft of this type under the supervision of an instructor or in a flight simulator approved for this purpose.

§ 9. Previous experience of a replacement pilot in the cruise phase of a flight

392. An operator shall not assign a pilot to act as a relief pilot in the cruise phase of a flight on an aircraft of a particular type or modification of an aircraft type if, within the preceding 90 days, that pilot:

– did not perform the duties of aircraft commander, co-pilot or relief pilot during the cruise phase of a flight on an aircraft of this type or

– has not completed training to restore flight skills, including actions in normal, abnormal and emergency situations specific to the cruise phase of flight, in an airplane of this type or in a flight simulator approved for this purpose, and has not practiced approach and landing procedures, although the practice of approach

and landing procedures may be carried out in the role of a pilot not flying the airplane.

393. If a relief pilot flies in the cruise phase of a flight on different modifications of the same type of aeroplane or on different types of aeroplanes but with similar characteristics in terms of operating procedures, systems and controls, the Civil Aviation Authority shall decide under what conditions the requirements provided for in paragraph 392 of these Regulations may be combined for each modification or each type of aeroplane.

§ 10. Granting the aircraft commander the right to use specific areas, routes and airfields

394. An operator shall not designate a pilot as pilot-in-command for a flight on a route or route segment for which that pilot is not currently qualified until that pilot satisfies the requirements contained in paragraphs 395 and 396 of these Rules.

395. The operator shall ensure that each pilot and navigator has sufficient knowledge of:

– the intended route and the designated landing airfields, including:

а) terrain and minimum safe absolute altitudes;

б) seasonal meteorological conditions;

в) technical means, maintenance procedures and rules in the field of meteorology, communications and air traffic;

г) search and rescue rules;

д) navigational aids and regulations, including any long-range navigation regulations relating to the route to be flown;

– rules for constructing flight paths over densely populated areas and areas with high air traffic density, the location of obstacles, terrain topography, lighting, landing approach aids, as well as arrival, departure, holding and instrument approach procedures and applicable operating minima.

Note: Knowledge in the area relating to arrival, departure, holding and instrument approach procedures may be demonstrated on an appropriate simulator designed for that purpose.

396. The aircraft commander shall perform an approach to each landing aerodrome along the route in the presence in the cockpit, as a member of the flight crew or as an observer, of a pilot who is qualified to perform a landing at that aerodrome, except in cases where:

– the approach to the aerodrome is made over easy navigation terrain when the instrument approach procedures and facilities available are similar to those with which the pilot is familiar and normal operating minima are cleared with the consent of the Civil Aviation Authority or when there is reasonable assurance that the approach and landing can be made in visual meteorological conditions; or

– the descent from the initial approach altitude may be accomplished during daylight hours in visual meteorological conditions; or

– the operator establishes by means of graphic means of depicting the earth's surface that the qualifications of the aircraft commander entitle him to land at the appropriate aerodrome; or

– This airfield is located next to the airfield at which the aircraft commander currently has the right to land.

397. The operator shall maintain records of the pilot's qualification level and of the manner in which that qualification level was attained. These records shall be maintained to the satisfaction of the Civil Aviation Authority.

398. An operator shall not designate a pilot as pilot-in-command of an aircraft on a route or within an area established by the operator and approved by the Civil Aviation Authority unless, during the preceding 12 months, that pilot has performed at least one flight as a pilot in the flight crew, an inspection pilot, or an observer in the flight deck:

– in this designated area and

– where appropriate, on any route where procedures associated with that route or with any aerodromes intended to be used for take-off or landing require the application of special skill or knowledge.

399. When, for a period of more than 12 months, the pilot-in-command has not flown any adjacent route or over similar terrain in such a designated area, route or aerodrome and has not practised such procedures in a simulator adequate for the purpose, before being reassigned as pilot-in-command to fly in that area or route, that pilot must be re-qualified in accordance with paragraphs 395 and 396 of these Rules.

§ 11. Pilot qualification checks

400. The operator shall ensure that such tests of piloting technique and emergency response skills are carried out as demonstrate the actual fitness of pilots to fly each type or variant of a type of aeroplane. Where a flight is conducted under instrument flight rules, the operator shall ensure that pilots demonstrate their ability to comply with such rules either to his designated flight inspector or to a representative of the Civil Aviation Authority. Such tests shall be carried out twice in any one-year period. Any two such tests which are similar in nature and which are carried out within four consecutive months shall not fully satisfy this requirement.

401. The operator shall ensure that flight crew members undergo simulator training (training and qualification checks) on FFS-type simulators twice a year, every 6 months (maximum 7 months), in the amount of two sessions (8 hours)(OPC).The minimum period between two simulator training sessions of a similar nature shall be not less than four months, but in this case the next simulator training session shall be conducted after six months, maximum seven months, from the date of the last simulator training session. The minimum total annual volume of simulator training shall comprise four sessions (16 hours). Training on simulators other than FFS shall be conducted for those parts of the training and checks for which

they have been approved. In the event that simulators are not available for the given aircraft type, cockpit training shall be conducted in accordance with the mandatory aerodrome training programme approved by the Civil Aviation Authority.

Note: Flight simulation training devices approved by the Civil Aviation Authority shall be used for those parts of the above tests for which they are specifically approved.

402. If an operator plans a flight crew schedule on aircraft of different modifications of the same type, or on aircraft of different types but with similar characteristics in terms of operational procedures of the control system, the Civil Aviation Authority shall decide under what conditions the requirements provided for in paragraph 400 of these Rules may be combined in relation to each modification or each type of aircraft.

§ 12. Operation of flights under instrument flight rules (IFR) or at night on aircraft operated by one pilot

403. The civil aviation authority shall prescribe requirements for experience, training and break times applicable to single-pilot operations under IFR or at night.

404. The aircraft commander must:

а) for flights under IFR or at night, have at least 50 hours of flight time on an aircraft of the given class, of which at least 10 hours as an aircraft commander;

б) for IFR flights, have at least 25 hours of IFR flight time on an aircraft of the given class, which may be part of the 50 hours of flight time specified in subparagraph a);

в) for night flights, have at least 15 hours of flight time at night, which may be part of the 50 hours of flight time specified in subparagraph a);

г) for IFR flights, have previous experience of performing IFR flights in single-pilot aircraft, including:

– at least 5 IFR flights, including 3 instrument approaches, during the previous 90 days in an aeroplane of the class in single-pilot mode; or

– an IFR instrument approach test on such aircraft within the previous 90 days;

д) for night flights, perform at least 3 takeoffs and 3 landings at night on an aircraft of the given class in single-pilot flight mode during the previous 90 days;

е) successfully complete training programs that include, in addition to the requirements of §6 of Chapter 9 of these Rules, passenger instruction regarding emergency evacuation, use of the autopilot, and a simplified method of using flight documentation.

405. The aircraft commander shall undergo the initial and recurrent flight training and qualification checks specified in paragraph 380 and in §11 of Chapter 9 of these Rules, in single-pilot flight mode on an aircraft of a certain type or class under conditions representative of the specific flight.

§ 13. Flight crew equipment

406. A flight crew member exercising the privileges conferred by a certificate issued subject to the wearing of appropriate corrective lenses shall have a spare set of corrective lenses (spectacles or contact lenses) which shall be kept in a readily accessible place.

Chapter 10. Flight Operations Officer/Flight Dispatcher

407. The Civil Aviation Authority requires that a flight support officer/flight dispatcher performing his/her functions in accordance with the approved method of control and supervision of flight operations has the appropriate certificate of completion of a training centre under the programme "Training of a flight support officer/flight dispatcher", such a flight support officer/flight dispatcher receives a certificate in accordance with the provisions of APKR-1.

408. When recognizing evidence of qualification other than the possession of a flight operations officer/flight dispatcher licence, the Civil Aviation Authority shall, in accordance with the approved method of control and supervision of flight operations, require that such persons, as a minimum, meet the requirements of APC-1 for the issue of licences to flight operations officers/flight dispatchers.

409. A Flight Operations Officer/Flight Dispatcher shall not be permitted to work if he/she:

а) has not successfully completed a specialized training course covering all the specific elements of his approved flight operations management and control methodology;

б) has not, during the preceding 12 months, made, from the cockpit, at least one one-way qualification flight over any area within which he is authorized to exercise control of flights. This flight must include landings at as many aerodromes as possible.

For the purposes of a qualification flight, the Flight Operations Officer/Flight Dispatcher must be able to monitor the operation of the flight crew intercom system and radio communications equipment and be able to monitor the flight crew's activities;

в) did not demonstrate to the operator knowledge of:

– the contents of the flight operations manual described in Appendix 2 to these Rules;

– on-board radio equipment used;

– on-board navigation equipment used;

г) has not demonstrated to the operator knowledge of the following details concerning the flights for which the employee is responsible and the areas within which the person is authorized to exercise control over flights:

– seasonal meteorological conditions and sources of meteorological information;

– the influence of meteorological conditions on the reception of radio signals by the onboard equipment used;

– the features and limitations of each navigation system used by the operator;

– aircraft loading instructions;

д) failed to demonstrate to the operator knowledge and skills in the area of human performance as applied to the duties of a flight dispatcher;

e) has not demonstrated to the operator the ability to perform the duties specified in §35 of Chapter 4 of these Rules.

410. A flight operations officer/flight dispatcher authorized to work shall maintain at all times a level of knowledge of all operational features that are relevant to such work, including knowledge and skills in the area of human performance.(DRM). As well as periodic training on RVSM, TCAS, CFIT, PBN, EGPWS.

Note: Recurrent ground training requirements may be satisfied through correspondence courses, distance learning, or written examinations.

411. A flight operations officer/flight dispatcher shall not be permitted to work if he/she has been out of duty for 12 months until the provisions of this chapter are satisfied.

Chapter 11. Manuals, logbooks and records

412. The following manuals, logbooks and records, which are not mentioned in this chapter, are also relevant to these Rules:

– document for recording fuel and oil refills;

– recorded data on continued airworthiness;

– a document for recording flight time, duty time and rest time of pilots;

– flight preparation documentation;

– operational flight plan;

– a document recording the level of qualification of an aircraft commander in relation to specific routes and airfields.

§ 1. Flight manual

413. The Flight Manual contains the information set out in APKR-8. The Flight Manual is updated by introducing amendments approved by the Civil Aviation Authority or the State of Registry.

§ 2. Operator's Manual for Regulation of Technical Maintenance

414. Operator's manual for regulating maintenance, which is provided in accordance with§2 Chapter 8 of these Rules and may be published in the form of separate parts, contains the following information:

а) a description of the procedures provided for in paragraph 351 of Chapter 8 of these Rules, including, where applicable:

– description of the administrative agreements between the operator and the approved maintenance organization;

– a description of the maintenance procedures and the procedures for completing and signing the maintenance certificate when the maintenance is based on a system other than that of the approved maintenance organization;

б) the names and duties of the person or persons;

в) link to the maintenance program;

г) description of the methods used by the operator to record and store maintenance data;

д) description of procedures for monitoring, evaluating and reporting data on maintenance and operating experience;

е) description of procedures for meeting the requirements for the submission of operational information;

ж) a description of the procedures for evaluating continuing airworthiness information and implementing any resulting actions;

з) description of procedures for implementing actions arising from mandatory continuing airworthiness information;

и) a description of the procedures for the introduction and operation of a system for analyzing and continuously monitoring the implementation and effectiveness of the maintenance program in order to eliminate any deficiencies in this program;

к) a description of the types and models of aircraft to which the manual applies;

л) description of procedures for ensuring the recording and correction of malfunctions affecting airworthiness;

м) Description of procedures for informing the State of Registry of significant operational incidents.

§ 3. Maintenance program

415. The maintenance program for each aircraft, as provided for in § 3 of Chapter 8 of these Rules, contains the following information:

а) maintenance work and the frequency of its execution, taking into account the intended use of the aircraft;

б) where applicable, a structural integrity maintenance program;

в) procedures for changing or deviating from the provisions referred to in subparagraphs (a) and (b) above; and

г) where applicable, a description of the condition monitoring procedures and reliability maintenance programme for aircraft systems, units and engines.

416. Maintenance work and its frequency established as mandatory upon approval of the standard design are specified as such.

417. The maintenance programme shall be based on the maintenance programme information provided by the State of Design or the organisation responsible for the type design and any additional relevant experience.

§ 4. Flight log

418. The logbook must contain the following sections with the corresponding numbering in Roman numerals:

1) Nationality and registration of the aircraft.

2) Date.

3) Surnames of crew members.

4) Duties of crew members.

5) Departure point.

6) Destination.

7) Departure time.

8) Arrival time.

9) Flight hours.

10)Nature of flight (private, aviation special work, scheduled or irregular flight).

11)Incidents, observations, if any.

12) Signature of the responsible person.

419. Entries in the logbook should be made immediately in ink or indelible pencil.

420. A completed logbook should be retained to provide a continuous record of the flight operations performed during the last 12 months. In addition to the logbook, a general declaration relating to each flight should also be retained for the same 12-month period.

421. It is permitted to keep an on-board logbook in electronic form if the procedures for keeping an electronic on-board logbook developed by the operator satisfy the Civil Aviation Authority.

§ 5. Accounting for on-board emergency rescue equipment

422. Operators shall always have available for immediate communication to rescue coordination centres lists containing details of the emergency life-saving equipment carried on board any of their aircraft engaged in air navigation. This information shall include, as appropriate, the number, colour and type of life-saving equipment and flares, details of emergency medical supplies, water supplies and the type of emergency portable radio equipment and the frequencies on which it operates.

§ 6. Flight recorder records

423. In the event of an accident or incident involving an aircraft, the operator shall, to the extent possible, ensure the preservation of all flight recorder records relating to the flight and, if necessary, the flight recorders themselves, as well as their storage in a safe place until their release, as provided for in APKR-13.

Chapter 12. Cabin Crew Members

§ 1. Distribution of responsibilities in an emergency situation

424. The operator shall establish a sufficient minimum number of cabin crew members for each type of aircraft, based on the passenger capacity or number of passengers carried, to ensure the safe and prompt evacuation of persons and to perform the necessary functions in an emergency or in a situation requiring emergency evacuation. Unless otherwise agreed, the operator shall assign cabin crew members to a flight at a rate of not less than one cabin crew member for every 50 passengers. The operator shall determine these functions for each type of aircraft.

§ 2. Cabin crew member positions during emergency evacuation

425. Each member of the cabin crew who is responsible for actions related to emergency evacuation shall occupy the position provided for in §27 of Chapter 6 of these Rules during takeoff and landing, as well as at the direction of the aircraft commander.

§ 3. Safety of cabin crew members during flight

426. During takeoff and landing, and at any other time, as directed by the aircraft commander, each cabin crew member shall take a seat and fasten a seat belt or harness, if any. The aircraft commander may also, in other cases, except during takeoff and landing, give instructions to fasten only seat belts.

§ 4. Preparation

427. The operator shall prepare and implement a training program approved by the Civil Aviation Authority for all persons prior to their appointment as cabin crew members. Cabin crew members shall undergo a refresher training program annually. These training programs shall ensure that each of these persons:

а) will be able to perform those safety-related duties and functions required of a cabin crew member in the event of an emergency or in a situation requiring emergency evacuation;

б) will be able to use life-saving equipment carried on board, such as life jackets, life rafts, escape slides (chutes), emergency exits, portable fire

extinguishers, oxygen equipment, universal prophylaxis kits, first aid kits and automated external defibrillators;

в) when working on aircraft flying at altitudes above 3,000 meters (10,000 feet), be aware of the effects of oxygen deprivation, and when working on pressurized aircraft be aware of the physiological effects caused by depressurization;

г) will know the duties and functions of other crew members in an emergency to the extent necessary to perform his or her own duties as a cabin crew member;

д) will know the types of dangerous goods that can and cannot be carried in the passenger/cargo compartment;

е) will have knowledge of human capabilities as they relate to aircraft cabin safety responsibilities, including coordination between flight and cabin crew members.

Note: Requirements for training cabin crew members in the transport of dangerous goods are provided in and in the ICAO Technical Instructions for the Safe Transport of Dangerous Goods by Air (Doc 9284).

Additional information on the requirements for the transportation of dangerous goods is provided in Chapter 14 of these Rules.

Chapter 13. Security

§1. Domestic commercial flights

428. Unless otherwise specifically provided in these Rules, the requirements of this Chapter shall also apply to domestic commercial flights (air transport).

Note: In the context of this chapter, the word "security" is used in relation to the prevention of unlawful acts against civil aviation.

§ 2. Flight deck safety

429. All aircraft having a flight deck door shall be capable of being locked and shall provide a means by which cabin crew members can discreetly notify the flight crew in the event of suspicious activity or a breach of security in the passenger cabin.

430. On all aircraft carrying passengers:

– with a maximum certificated take-off mass exceeding 54,500 kg, or

– with a maximum certificated take-off mass exceeding 45,500 kg and a passenger capacity exceeding 19 persons; or

– with a passenger capacity of more than 60 people

a flight deck door of an approved design is installed,designed in this way,so that it can withstand penetration by small arms bullets and grenade fragments,as well as violent intrusion by strangers.It is possible to lock and unlock this door from each pilot's seat..

431. On all aircraft where the flight deck door is installed in accordance with paragraph 430 of these Rules:

а) this door shall be in the closed and locked position from the time all external doors are closed after passengers have boarded until any such door is opened for them to disembark, except to the extent necessary to enable persons entitled to do so to enter or leave, and

б) means shall be provided from each pilot's station to monitor the entire door area outside the flight deck in order to identify persons seeking entry and to detect suspicious activity or potential threats.

432. All passenger-carrying aeroplanes should, whenever practicable, be fitted with a flight deck door of an approved design, designed to resist penetration by small arms fire, grenade fragments and forced entry by unauthorized persons. It should be possible to lock and unlock the door from each pilot's position.

433. On all aircraft where the flight deck door is installed in accordance with paragraph 432 of these Rules:

а) such door shall be kept in the closed and locked position from the time all external doors are closed after passengers have embarked until any such door is opened for them to disembark, except where necessary to enable persons entitled to do so to enter or leave, and

б) Means should be provided from each pilot's position to monitor the entire door area outside the flight deck to identify persons seeking entry and to detect suspicious activity or potential threats.

§ 3. Checklist of aircraft search rules

434. The operator shall ensure that a checklist of procedures is available on board the aircraft to be followed when searching for an explosive device in the event of suspected sabotage and when checking aircraft for concealed weapons, explosives or other dangerous devices when there is reasonable suspicion that the aircraft may be subject to an act of unlawful interference. The checklist shall be supplemented by guidance on the actions to be taken in the event of discovery of an explosive device or suspicious item, as well as information on the least dangerous location for placing a bomb on a particular aircraft.

§ 4. Training programs

435. The operator shall establish and implement an approved safety training program to ensure that crew members take the most appropriate actions to minimize the consequences of acts of unlawful interference. At a minimum, this program shall include the following elements:

а) determining the seriousness of any event;

б) communication and coordination between crew members;

в) appropriate self-defense measures;

г) the use of non-lethal protective devices intended for crew members, the use of which is authorized by the Civil Aviation Authority;

д) familiarization with terrorist behavior to enhance the ability of crew members to take into account the behavior of air hijackers and the reactions of passengers;

е) exercises to practice actions in a real situation, taking into account various threat conditions;

ж) the procedure for actions in the flight deck in order to protect the aircraft;

з) aircraft search procedures and recommendations for the least hazardous bomb placement locations where practicable.

436. The operator shall also establish and maintain a training programme to familiarize appropriate personnel with preventive measures and techniques in relation to passengers, baggage, cargo, mail, equipment, stores and catering intended for carriage on the aircraft so that they will contribute to the prevention of acts of sabotage or other forms of unlawful interference.

§ 5. Reporting of acts of illegal interference

437. After committing an act of unlawful interference, the aircraft commander shall immediately send a report of such act to the designated local authority.

§ 6. Other provisions

438. Special means should be provided to reduce the impact of the explosion and to give it a targeted character for use in the least dangerous location of the bomb.

439. In the event that an operator accepts for carriage weapons confiscated from passengers, the aircraft must ensure that such weapons are stored in a designated location so that no person, including crew members, has access to them during flight time.

Chapter 14. Dangerous Goods

§1. Responsibility

440. Aviation regulations of the Kyrgyz Republic "APKR-18. Transportation of dangerous goods by air" contain requirements for establishing a procedure for monitoring all legal entities (including packers, shippers, ground handling organizations and operators) performing operations with dangerous goods.

§2. Operators who do not have special approval for the carriage of dangerous goods as cargo

441. The Civil Aviation Authority requires that operators who do not have special approval for the carriage of dangerous goods:

а) create dangerous goods training programmes that meet the requirements of APCR-18, applicable requirements of Chapter 4 of Part 1 of the Technical Instructions, and national regulations, as appropriate. Initial and recurrent dangerous goods training programmes should be developed and updated in accordance with the Dangerous Goods Training Guidelines

б) establish dangerous goods policies and procedures in their operations manuals to meet, as a minimum, the requirements of APC-18, the Technical Instructions and State regulations to enable the operator's personnel to:

– identify and refuse acceptance of undeclared dangerous goods, including COMAT, classified as dangerous goods;

– report to the Civil Aviation Authority and the relevant authorities of the State in which it occurred information about any:

1) cases of detection of undeclared dangerous goods in cargo or mail;

2) incidents and accidents involving dangerous goods.

§ 3. Operators with special approval for the carriage of dangerous goods as cargo

442. The civil aviation authority issues special approval for the carriage of dangerous goods and ensures that the operator:

а) establish dangerous goods training programmes that meet the requirements of Table 1-4 of Chapter 4 of Part 1 of the Technical Instructions and the requirements of national regulations, as appropriate. Initial and recurrent dangerous goods training programmes should be developed and updated in accordance with the Dangerous Goods Training Guidelines;

б) establish dangerous goods policies and procedures in its operations manuals to meet, as a minimum, the requirements of APC-18, the Technical Instructions and State regulations to enable the operator's personnel to:

– identify and refuse acceptance of undeclared or misdeclared dangerous goods, including COMAT, classified as dangerous goods;

– provide the Civil Aviation Authority and the relevant authorities of the State in which it occurred with information on any:

1)cases of detection of undeclared or incorrectly declared dangerous goods in cargo or mail;

2)accidents and incidents involving dangerous goods.

– provide the Civil Aviation Authority and the relevant authorities of the State of Origin with information on any cases of detection of the carriage of dangerous goods when:

1)the cargo was not loaded,separated,divided or fixed in accordance with the provisions of Chapter2parts7Technical instructions;

2)information about dangerous goods was not provided to the aircraft commander;

– accept, process, store, transport, carry out loading and unloading operations with dangerous goods as cargo on board an aircraft, including COMAT classified as dangerous goods;

– provide the aircraft commander with accurate and legible information in written or printed form concerning the dangerous goods to be carried as cargo.

§ 4. Provision of information

443. The operator ensures that information is provided to all personnel.,including third party personnel,involved in the acceptance process,processing,loading and unloading of cargo,on special approval and restrictions of the operator regarding the carriage of dangerous goods.

§5. Domestic commercial air transport

444. The requirements of this chapter shall also apply to all operators when performing domestic commercial air transport operations. APKR-18 contains a corresponding similar provision.

Chapter 15. Cargo Compartment Safety

§1. Transportation of products in the cargo compartment

445. The civil aviation authority shall ensure that the operator establishes policies and procedures for the carriage of articles in the cargo hold that include a specific safety risk assessment. The risk assessment shall, as a minimum, include consideration of:

а) types of hazard associated with the properties of products to be transported;

б) capabilities of the operator;

в) operational considerations (e.g. flight area, diversion time);

г) capabilities of the aircraft and its systems (for example, the capabilities of the cargo compartment fire protection system);

д) characteristics of the retention of the contents of the cargo packaging means;

е) aspects related to packaging and packaging kits;

ж) aspects of ensuring the security of the supply chain of products to be transported;

з) the quantity and distribution of dangerous goods to be transported.

Additional operational requirements for the transport of dangerous goods are contained in Chapter 14 of these Rules.

§2. Fire protection

446. The airplane flight manual or other supporting documentation for the operation of the airplane shall contain information on the elements of the cargo compartment(s) fire protection system approved by the State of Design or the Civil Aviation Authority, or the State of Registry if the Civil Aviation Authority is not the State of Registry, and a summary of the demonstrated certification standards for cargo compartment fire protection.

447. The operator shall establish policies and procedures covering articles to be carried in the cargo compartment which ensure with reasonable assurance that, in the event of a fire involving such articles, it can be detected and adequately suppressed or contained by the aeroplane structural components associated with the cargo compartment fire protection system until the aeroplane has landed safely.

Appendix 1

Aircraft side lights

(See §21 of Chapter 6.)

1. Terminology

1. When used in this Appendix, the following terms have the following meanings::

Vertical planes.Planes,perpendicular to the horizontal plane.

Visible.Visible on a dark night with a clear atmosphere.

Horizontal plane.Plane,containing the longitudinal axis and perpendicular to the plane of the aircraft.

On the go.Airplane,located on the surface of the water,counts"on the go",unless it is aground or moored to the shore or to any fixed object on land or in the water.

In motion.Airplane,located on the surface of the water,counts"in motion",if it is moving and has a speed relative to the water.

Longitudinal axis of the aircraft.Axis,passing through the aircraft's center of gravity,parallel to the direction of flight at normal cruising speed.

Angles of action of lights.

a) The angle of action A is formed by two intersecting vertical planes, forming, respectively, an angle of 70° to the right and an angle of 70° to the left, when looking back along the longitudinal axis, with a vertical plane passing through the longitudinal axis.

b) The angle of action F is formed by two intersecting vertical planes, forming, respectively, an angle of 110° to the right and an angle of 110° to the left, when looking forward along the longitudinal axis, with a vertical plane passing through the longitudinal axis.

c) The angle of action L is formed by two intersecting vertical planes, one of which is parallel to the longitudinal axis of the aircraft, and the other is at an angle of 110° to the left of the first, if you look forward along the longitudinal axis.

d) The angle of action R is formed by two intersecting vertical planes, one of which is parallel to the longitudinal axis of the aircraft, and the other is at an angle of 110° to the right of the first, if you look forward along the longitudinal axis.

Controlled.An aircraft on the surface of the water is considered to be "under control" when it can perform manoeuvres in accordance with the International Regulations for Preventing Collisions at Sea to avoid other vessels.

2.Navigation lights,used in the air

2. The lights listed below are intended to meet the requirements of APKR-2 for navigation lights.

On rice. 1Shows unshaded navigation lights in use:

A)red fire,emitting light above and below the horizontal plane with an angle of actionL;

b)green fire,emitting light above and below the horizontal plane with an angle of actionR;

V)white fire,emitting light above and below the horizontal plane in a given direction with an angle of action A.

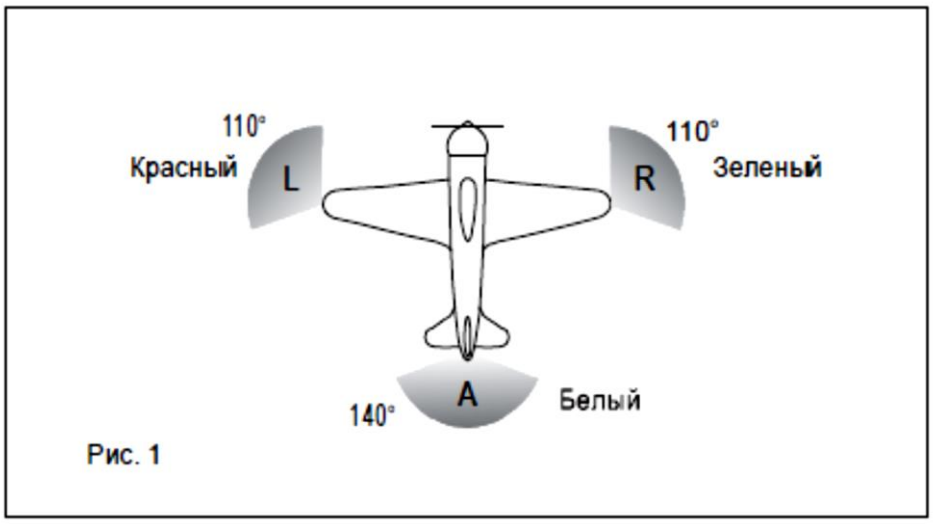


Рис. 1

3.Lights,used on water

§ 1.General Provisions

3. The lights listed below are intended to meet the requirements of APC-2 for lights used by aircraft on the water.

4. The international regulations for preventing collisions at sea provide for the use of different lights for each of the following situations:

a) in a "running" state;

b) towing another vessel or aircraft;

c) being towed;

d) being out of control and not in motion;

d) being in motion but not under control;

e) while at anchor;

g) being aground.

The lights required for aircraft in each case are described below.

§ 2.In a state"on the go"

5. Fig. 2 shows the following unshaded constant glow lights:

A)red fire,emitting light above and below the horizontal with an angle of actionL;

b)green fire,emitting light above and below the horizontal with an angle of actionR;

V)white fire,emitting light above and below the horizontal with an angle of action of A;

G)white fire,emitting light with an angle of actionF.

6. The lights referred to in subparagraphs a), b) and c) of paragraph 5 of this Annex shall be visible at a distance of not less than 3.7 km (2 NM). The light referred to in subparagraph d) of paragraph 5 shall be visible at a distance of 9.3 km (5 NM) if fitted to an aeroplane of 20 m or more in length, or it shall be visible at a distance of 5.6 km (3 NM) if fitted to an aeroplane of less than 20 m in length.

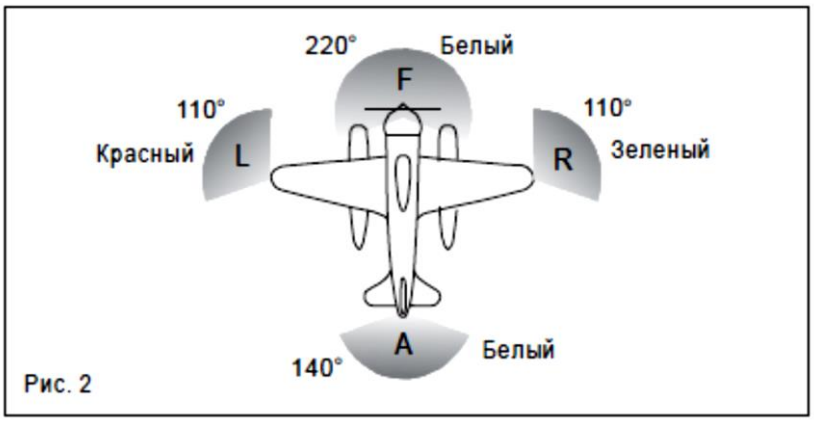


Рис. 2

§ 3. Towing another vessel or aircraft

7. Fig. 3 shows the following unshaded constant glow lights:

a) the lights specified above inpoint 5;

b) a second light with characteristics similar to those of the light specified in subparagraph d)point 5, and located at least 2 meters above or below this light;

c) a yellow light, the other characteristics of which are similar to those of the light specified in subparagraph c)point 5, and located at least 2 meters above this fire.

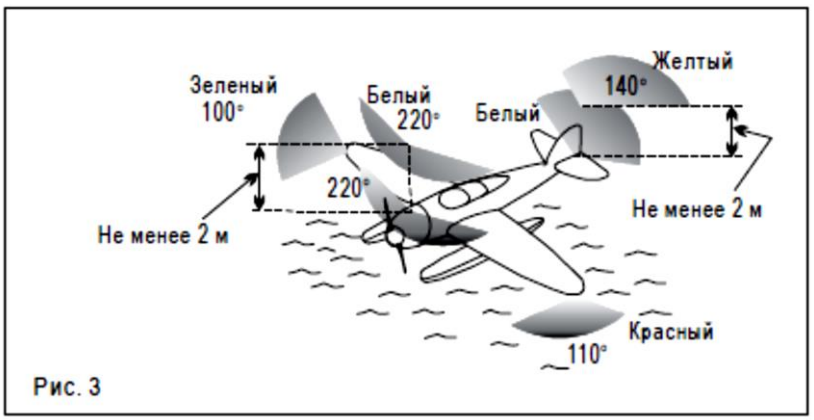


Рис. 3

§ 4. Being towed

8. The lights described in subparagraphs a), b), c) of paragraph 5 of §2 of this Appendix are unobscured lights of constant illumination.

§ 5. Being uncontrollable and not in motion

9. The two red lights of constant illumination shown in Fig. 4 shall be installed in the best position for visibility and shall be located one above the other at a distance of not less than 1 metre so that they can be seen from all directions along the horizon at a distance of not less than 3.7 km (2 NM).

§ 6. Being in motion, but being uncontrollable

10. Fig. 5 shows the lights described in §5 and in subparagraphs a), b) and c) of paragraph 5 of §2 of this Appendix.

11. The lights specified in §5 and §6 of this Appendix must be perceived by other aircraft as signals that the aircraft displaying them is not under control and therefore cannot give way. They do not apply to signals of aircraft in distress and requiring assistance.

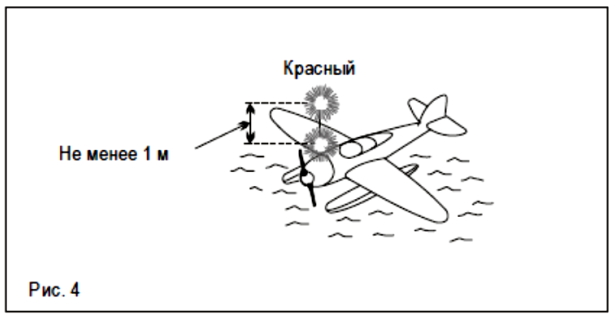


Рис. 4

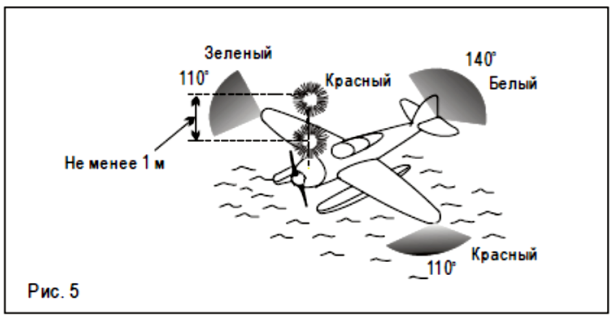


Рис. 5

§ 7. While at anchor

(a) If the length of the aircraft is less than 50 m, a constant white light (Fig. 6) shall be displayed in a position where it is best visible from all directions along the horizon at a distance of not less than 3.7 km (2 NM).

b) If the length of the aeroplane is 50 m or more, a forward, steady white light and a rear, steady white light (Fig. 7) shall be switched on, located where they are best visible from all directions along the horizon at a distance of not less than 5.6 km (3 NM).

(c) If the wingspan is 50 m or more, a steady white light on each side (Figs. 8 and 9) shall be installed on the wings to indicate their maximum span and visible, if possible, from all directions on the horizon at a distance of not less than 1.9 km (1 NM).

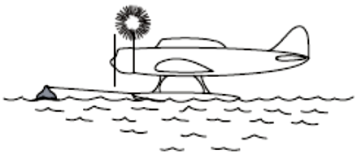
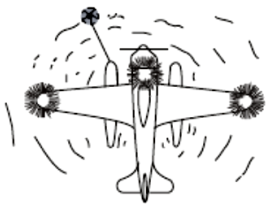


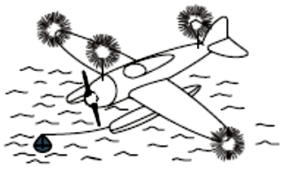
Рис. 6

Рис. 7



При длине менее 50 м; при размахе крыльев 50 м или более

Рис. 8



При длине 50 м или более; при размахе крыльев 50 м или более

Рис. 9

§ 8. Being aground

In addition to the lights listed in §7 of this Appendix 1, two red lights of constant glow shall be switched on, mounted vertically one above the other at a distance of not less than 1 metre so that they are visible from all directions along the horizon.

Appendix 2

Structure and content of the Flight Operations Manual

(See paragraph 52 §4 of Chapter 4)

1. Structure

1. The flight operations manual provided in accordance with paragraph 52 of Chapter 4 of these Rules, which may be issued in separate parts on specific aspects of flight operations, shall have the following structure:

a) general provisions;

b) information on the operation of the aircraft;

c) areas, routes and airfields;

d) preparation.

2. Contents

2. The said Flight Operations Manual shall include at least:

§ 1. General Provisions

3. Instructions outlining in general terms the duties of personnel involved in flight operations.

4. Information and policies regarding fatigue management, including:

(a) policies concerning the regulation of flight time, flight duty time and duty time, and requirements for rest time of flight and cabin crew members in accordance with the second paragraph of paragraph 174 of Chapter 4 of these Regulations;

b) where applicable, the policies and documentation relating to the operator's FRMS in accordance with Appendix 6 to these Regulations.

5. A list of the navigation equipment to be carried on board, including any requirements relating to operations in airspace where performance-based navigation is prescribed.

6. For the relevant flights, the long-range navigation rules to be used, the engine failure procedure for performing EDTOs, and the designation and use of alternate aerodromes.

7. Circumstances under which it is necessary to listen to radio frequencies.

8. Method for determining minimum absolute flight altitudes.

9. Methods for determining operating minima of aerodromes.

10. Precautions to be taken when refuelling with passengers on board.

11. Organization and procedures of ground handling.

12. The procedure for actions of aircraft commanders who witnessed an incident, as prescribed in APCR-12.

13. The composition of the flight crew for each type of flight performed, including the order of succession of command.

14. Precise instructions for calculating the amount of fuel and oil that must be carried in the tanks, taking into account all flight conditions, including the possibility of depressurization and failure of one or more engines en route.

15. The conditions under which oxygen is used and the oxygen supply determined in accordance with paragraph 121 of Chapter 4 of these Rules.

16. Instructions for checking weight and alignment.

17. Instructions regarding the elimination/prevention of icing and monitoring the performance of these operations.

18. Technical requirements for the flight plan.

19. Standard operating procedures (SOP) for each phase of flight.

20. Instructions for the use of routine checklists and when to use them.

21. Rules for departure in unforeseen circumstances.

22. Guidelines for the provision of altitude information and altitude reporting by automatic means or by flight crew members.

23. Instructions regarding the use of autopilots and autothrottles in IMU.

Note.—The guidelines for the use of autopilots and autothrottles, in conjunction with the provisions of paragraphs 28 and 32 of this Annex, are an important element in the prevention of accidents during approaches and landings and collisions of controlled aircraft into terrain.

24. Guidance on the clarification and acceptance of ATC clearances, in particular clearances relating to overflight of terrain.

25. Briefing regarding departure and landing approach.

26. Procedures for familiarization with areas, routes and airfields.

27. Stabilized approach procedure.

28. Limiting high descent rates near the surface.

29. Prerequisites for starting or continuing an instrument approach.

30. Guidelines for performing precision and non-precision instrument approaches.

31. Distribution of duties among flight crew members and procedures for regulating crew workload when performing instrument approaches at night and in IMC.

32. Instructions and training requirements for controllable aircraft collision avoidance techniques and principles of use of the ground proximity warning system (GPWS).

33. Principles, instructions, rules and requirements for training in collision avoidance techniques and the use of the airborne collision avoidance system (ACAS).

34. Information and instructions concerning the interception of civil aircraft, including:

a) the procedure for actions of the commanders of intercepted aircraft prescribed in APCR-2;

b) visual signals from the APKR-2 for use by intercepting and intercepted aircraft.

35. For aircraft to be operated at altitudes above 15,000 m (49,000 ft):

(a) information that will enable the pilot to determine the optimal course of action in the event of exposure to solar cosmic radiation, and

b) the procedure for action in the event of a decision to reduce, which provides for:

- the need to notify the relevant body of the Internal Affairs Department about the current situation and obtain temporary permission to descend and

- actions to be taken when it is impossible to establish contact with the police authority or when this contact is interrupted.

36. Detailed information on the flight safety management system (FSMS) is provided in accordance with Chapters 3 and 4 of APCR-19.

37. Information and instructions on the transport of dangerous goods, in accordance with Chapter 14 of these Regulations, including actions to be taken in the event of an emergency.

Guidance material on the development of policies and procedures to deal with incidents involving dangerous goods on board aircraft is contained in the Emergency Response Guidance for Aircraft Incidents Involving Dangerous Goods (Doc 9481).

38. Instructions and safety guidelines.

39. The checklist of aircraft search rules provided in accordance with paragraph 434 of Chapter 13 of these Rules.

40. Instructions and training requirements for the use of automatic landing systems, HUD or equivalent indicators and, where applicable, EVS, SVS or CVS systems.

41. EFB use guidelines and training requirements, as appropriate.

§ 2. Information on aircraft operation

42. Certification limitations and operational restrictions.

43. The procedure for the flight crew to follow in normal, abnormal and emergency situations and the associated checklists, as specified in paragraph 206 of Chapter 6 of these Rules.

44. Operating instructions and information on climb performance with all engines running, if provided in accordance with paragraph 56 of Chapter 4 of these Regulations.

45. Flight planning data for pre-flight and in-flight planning with different thrust/power and speed settings.

46. Maximum values of crosswind and tailwind components for each type of aeroplane operated and reduced values to be applied to take into account gusts, low visibility, runway surface conditions, crew experience, use of autopilot, abnormal or emergency situations, or any other flight operations-related factors.

47. Instructions and data for calculating mass and balance.

48. Instructions for loading aircraft and securing cargo.

49. Aircraft systems, associated controls and instructions for their use, as specified in paragraph 206 of Chapter 6 of these Rules.

50. Minimum equipment list and list of configuration deviations for the types of aeroplanes operated and special operations authorized, including any requirements related to operations in airspace where performance-based navigation is prescribed.

51. A checklist of emergency and rescue equipment, as well as instructions for its use and plans for passenger actions in an emergency.

52. Emergency evacuation procedures, including special procedures for types of situations, coordination of crew actions, assignment of crew members to their work stations in an emergency situation and emergency duties assigned to each crew member.

53. The procedure for the actions of the maintenance crew in normal, abnormal and emergency situations, the associated checklists, as well as information on aircraft systems in accordance with established requirements, including a description of the necessary procedures for coordinating the actions of the flight and maintenance crews.

54. Rescue and emergency equipment for various routes and the necessary procedures for checking its normal operation before take-off, including procedures for determining the required and available oxygen supply.

55. Visual signal code "ground-air" from APKR-12 for use by survivors.

§ 3. Routes and airfields

56. En-route reference data to provide the flight crew on each flight with information on communications, navigation aids, aerodromes, instrument approaches, instrument arrivals and instrument departures necessary for the execution of a particular flight and such other information as the operator may deem necessary for the proper conduct of the flight.

57. Minimum absolute flight altitudes on each planned route.

58. Operating minima for each of the aerodromes intended to be used as intended landing aerodromes or alternate aerodromes.

59. Information on increasing the operating minima of aerodromes in the event of deterioration in the performance of approach or aerodrome facilities.

60. Instructions for the determination of aerodrome operating minima for instrument approaches using equipment meeting the extended capability criteria.

61. Information required to comply with all flight profiles provided for in the regulations, including, but not limited to, determination of:

a) requirements for the length of the runway during take-off in the case of dry, wet and contaminated runway surfaces, including requirements due to failures of systems that affect the take-off distance;

b) restrictions on altitude gain during takeoff;

c) restrictions on altitude gain during en-route flight;

d) restrictions on altitude gain during approach and landing;

d) requirements for the length of the runway during landing in the case of dry, wet and contaminated runway surfaces, including in the event of failures of systems that affect the landing distance;

e) additional information, such as tire speed limits.

§ 4. Preparation

62. Detailed information on the flight crew training program in accordance with §6 of Chapter 9 of these Rules.

63. Detailed information on the training programme for cabin crew members to perform duties in accordance with §4 of Chapter 12 of these Rules.

64. Detailed information on the training program for a flight support officer/dispatcher performing his/her functions in accordance with the method of exercising control over flight operations in accordance with §2 of Chapter 4 of these Rules. Detailed information on the training program for a flight support officer/dispatcher is provided in paragraph 409 of Chapter 10 of these Rules.

Appendix 3

Performance requirements for Altimetry Systems for operations in RVSM airspace

(See paragraph 338 §2 of Chapter 7.)

1. For groups of aeroplanes of nominally identical design and manufacture with respect to all elements capable of affecting height-keeping accuracy, the height-keeping capabilities are as follows: the mean total height error (TVE) of the group does not exceed 25 metres (80 ft) and its standard deviation does not exceed $28 - 0.013z^2$ for $0 \leq z \leq 25$, where z is the mean TVE in metres, or $92 - 0.004z^2$ for $0 \leq z \leq 80$, where z is calculated in feet. In addition, the components of TVE have the following characteristics:

(a) the mean value of the altimetry system error (ASE) for a group of aircraft does not exceed 25 metres (80 ft);

b) the sum of the absolute mean ASE value and three standard deviations of ASE does not exceed 75 meters (245 ft);

(c) the magnitudes of the difference between the cleared flight level and the barometric altitude indicated by the altimeter at which the flight actually takes place are distributed symmetrically about the mean value of 0 m with a standard deviation of not more than 13.3 meters (43.7 ft), and, in addition, the reduction in the frequency of occurrence of the difference with an increase in its magnitude corresponds to at least an exponential law.

2. For aeroplanes whose airframe and altimetry system characteristics are special and therefore cannot be classified as belonging to any of the groups of aeroplanes referred to in paragraph 1 of these Annexes, the height-keeping capabilities are such that the constituent components of the TVE of such aeroplane comply with the following characteristics:

a) the aircraft's ASE value does not exceed 60 meters (200 feet) under any flight conditions;

(b) the magnitudes of the difference between the cleared flight level and the barometric altitude indicated by the altimeter at which the flight actually takes place are distributed symmetrically about the mean value of 0 m with a standard deviation of not more than 13.3 meters (43.7 ft), and, in addition, the reduction in the frequency of occurrence of the difference with an increase in its magnitude corresponds to at least an exponential law.

Appendix 4

Control over flight safety by operators

1. APKR-19 contains general provisions concerning the state system of control over flight safety.

This Annex contains additional provisions relating to the oversight of safety performance by international commercial air transport operators.

1. Basic aviation legislation

2. The Kyrgyz Republic shall adopt laws to regulate the certification and ongoing supervision of operators and the elimination of flight safety issues identified by the Civil Aviation Authority and to ensure that, as a result of compliance with the requirements, an acceptable level of flight safety performance is achieved.

2. Specific operating rules

3. The Kyrgyz Republic adopts rules providing for certification and implementation of continuous supervision of aircraft operations and aircraft maintenance in accordance with the Annexes to the Convention on International Civil Aviation.

3. State system and control functions to ensure flight safety

4. The Kyrgyz Republic shall ensure that the Civil Aviation Authority is responsible for monitoring the provision of flight safety by operators.

5. The Civil Aviation Authority shall use the appropriate methodology to determine the requirements for the staffing of inspectors taking into account the volume and complexity of the activities of civil operators in the Kyrgyz Republic.

6. The methodology referred to in paragraph 5 of this Appendix must be presented in the form of a document.

7. The Civil Aviation Authority shall provide the Authority's inspectors with adequate support, authority and transport to independently carry out their assigned certification and ongoing surveillance tasks.

4. Qualified technical personnel

8. The Kyrgyz Republic requires that the initial and continuing training of Civil Aviation Authority inspectors include aircraft-specific topics.

5. Technical guidance material, tools and provision of safety-critical information

9. The Kyrgyz Republic shall ensure that technical guidance manuals containing information on policies, procedures and standards are provided to Civil Aviation Authority inspectors for their use in certification and ongoing supervision of operators.

10. The Kyrgyz Republic shall ensure that technical guidance manuals containing information on policies, procedures and standards are provided to Civil

Aviation Authority inspectors for their use in resolving safety issues, including enforcement measures.

11. The Kyrgyz Republic shall ensure that Civil Aviation Authority inspectors are provided with technical guidance on matters such as ethics, conduct and the prevention of actual or perceived conflicts of interest in the performance of official duties.

6. Obligations to issue certificates

12. In accordance with the Aviation Regulations of the Kyrgyz Republic, operators must demonstrate their ability to safely perform the proposed flights before starting new types of commercial transport activities.

Additional information on this issue is provided in Appendix 11 to these Rules.

7. Obligations for ongoing supervision

13. The civil aviation authority shall use the current surveillance plan to confirm that operators continue to meet the relevant requirements of the original certification and that each operator is performing its operations satisfactorily.

8. Resolving flight safety issues

Provisions for resolving flight safety issues are contained in APCR-19.

Appendix 5

Air Operator Certificate (AOC)

(See paragraph 45 and 46 §2 of Chapter 4.)

1. Purpose and scope of application

1. The SE and the associated model-specific performance specifications shall contain in a standard format the minimum information required in paragraphs 2 and 3 of this Appendix, respectively.

2. The air operator certificate and associated operational specifications define the types of operations that the air operator is permitted to conduct, including special approvals, conditions and limitations.

Appendix 11 contains additional information that may be included in the operational specifications associated with the air operator certificate.

2. SE format

3) In accordance with the requirement of paragraph 203 of Chapter 6 of these Rules, an officially certified copy of the SE must be on board the aircraft.

Notes:

<table>
<tr>
<td>SE No.[1] xx
AOC#

Validity period[2]:
Expiration date:</td>
<td>Name of the operator[3]:
Name of the Operator:

Trade name[4]:
Commercial name:

Operator's address[5]:
Operator's address:

Phone/Tel[6]:
Fax:

Email/E-mail[7]:</td>
<td>Operational communication in operation:
Contact information for immediate contact with operational management is provided in[8]
_____

Contact details of the operational management which can be contacted without
Unexpected delays are listed in_____</td>
</tr>
<tr>
<td colspan="3">This certificate certifies that the airline (indicate the name of the operator)[9]granted the right to carry out commercial air transportation as defined in the attached operational specifications, in accordance with the airline's RPP, the Air Code of the Kyrgyz Republic and the Aviation Regulations of the Kyrgyz Republic.
This certificate certifies that (name of the operator) is authorized to perform commercial air operations, as defined in the attached Operations Specifications, in accordance with the Operator's Operations Manual, Air Code of the Kyrgyz Republic and Aviation Rules of the Kyrgyz Republic.</td>
</tr>
<tr>
<td></td>
<td colspan="2">Surname and signature[11]:
Name and signature:</td>
</tr>
<tr>
<td>date of issue[10]:
Issue date:</td>
<td colspan="2">Job title[12]: Seal[13]
Title: Stamp</td>
</tr>
</table>

1. Individual number of the SE issued by the Civil Aviation Authority.

2. Validity period of the SE.

3. Registered name of the operator.

4. Commercial name of the operator, if different.

5. Legal address of the operator.

6. Telephone and fax numbers of the operator's principal place of business, including the country code.

7. Email address.

8. Identify the controlled document on board that contains the contact information, with a reference to the relevant paragraph or page. For example, "Contact information is provided in Chapter 1, 1.1, General/Basic Provisions of the Operations Manual"; or "…is provided on page 1 of the Operations Specifications"; or "…is provided in the Appendix to this document".

9. Registered name of the operator.

10. Date of issue of the SE (day – month – year).

11. Surname and signature of the head of the Civil Aviation Authority.

12. Position.

13. Official seal of the Civil Aviation Authority.

3. Operational specifications for each aircraft model

4. In accordance with the requirement of paragraph 203 of Chapter 6 of these Rules, an original copy of the operational specifications discussed in this section must be kept on board.

5. For each aircraft in the operator's fleet, defined by aircraft type, model and series, the following information shall be provided: contact information on the issuing authority, operator name and AOC number, date of issue and signature of the authority representative, aircraft model, types and areas of operation, special restrictions and authorizations. If special approvals and restrictions are the same for two or more models, these models may be combined into a group having a single list.

6. The format of operational certifications referred to in paragraph 46 of Chapter 4 of these Rules corresponds to the format given below:

<table>
<tr><td colspan="8">PERFORMANCE SPECIFICATIONS
OPERATIONS SPECIFICATIONS</td></tr>
<tr><td colspan="8">STATE AGENCY FOR CIVIL AVIATION UNDER THE CABINET OF MINISTERS OF THE KYRGYZ REPUBLIC
STATE CIVIL AVIATION AGENCY UNDER THE CABINET OF MINISTERS OF THE KYRGYZ REPUBLIC</td></tr>
<tr><td colspan="2">Telephone:[1]
Telephone:</td><td colspan="2"></td><td>Fax:
Fax:</td><td colspan="2"></td><td>E-mail:</td><td></td></tr>
<tr><td>№ SE[2]:
AOC#:</td><td></td><td colspan="2">Name of the operator[3]:
Operator name:</td><td colspan="4"></td></tr>
<tr><td>Job title:
Title:</td><td colspan="2">4</td><td>Date:
Date:</td><td>5</td><td>Last name and signature:</td><td colspan="2">6</td></tr>
</table>

				Name and Signature:	

Dba commercial name: *Dba trading name:*	[7]	seal[8] *stamp*
Aircraft model: *Aircraft model:*	[9]	

Types of flights: Commercial air transport *Types of operation: Commercial air transportation*	Passengers: ☐ *Passengers:*	Cargo: ☐ *Cargo:*	Other[10]: ☐ Other:

Flight area(s): *Area(s) of operation:*	[11]

Special restrictions:[12]
Special limitations:

SPECIAL APPROVAL ***SPECIFIC APPROVAL***	**YES** ***YES***	**NO** ***NO***	**DESCRIPTION**[13] ***DESCRIPTION***	**NOTE** ***REMARKS***
Dangerous goods *Dangerous goods*	☐	☐		
Flights in low visibility conditions: *Low visibility operations:*				
Approach and landing *Approach and landing*	☐	☐	[14]	CAT-__[14] RVR ___ m D/H____ft
Takeoff *Take-off*	☐	☐		RVR ___[15]m
Expanded operational capabilities *Operational credit(s)*	☐	☐	[16]	
RVSM[17] ☐ Not applicable *N/A*	☐	☐		
EDTO[18] ☐ Not applicable N/A	☐	☐	Threshold time:[19]_____min *Threshold time: minutes* Maximum flight time to alternate airport: _____ min *Maximum diversion time: minutes*	
Navigation specifications (AR) for flights in PBN conditions *AR navigation specifications for PBN operations*	☐	☐	[20]	
Maintaining airworthiness *Continuing airworthiness*	☐	☐	[21]	
EFB[22]	☐	☐		
Other[23] *Other*	☐	☐		

Notes:

1. Telephone and fax numbers of the Civil Aviation Authority, including country code. An e-mail address must be provided.

2. Indicate the corresponding SE number.

3. Specify the registered name of the operator.

4. Position of the head of the Civil Aviation Authority.

5. Date of issue of operational specifications (day – month – year)

6. Surname and signature of the head of the Civil Aviation Authority.

7. Commercial name of the operator.

8. Official seal of the Civil Aviation Authority.

9. Provide the Commercial Aviation Safety Team (CAST)/ICAO designator of the aircraft type, model and series or reference series, if a series is designated (e.g. Boeing 737-3K2 or Boeing 777-232). The CAST/ICAO taxonomy is available at: http://www.intlaviationstandards.org/.

10. Other types of transportation (provision of emergency medical care and other types of transportation or flights).

11. The list of geographical areas of permitted flights (geographic coordinates or specific routes, flight information region boundaries, state borders or regional boundaries are indicated) determined by the Civil Aviation Authority.

12. List of applicable special restrictions (e.g. PVP only, daytime only).

13. List in this column the most latitude-allowing criteria for each special statement (with the corresponding criteria).

14. Specify the appropriate precision approach category (CAT II or III). Specify the minimum RVR in meters and the decision height in feet. One line per approach category specified.

15. Provide the approved minimum RVR in metres for take-off or equivalent horizontal visibility if RVR is not used. One line per approval may be used if multiple approvals are provided.

16. Specify the capabilities of the onboard equipment (e.g. automatic landing systems, head-up display, EVS, SVS, CVS systems) and the corresponding extended operational capabilities provided.

17. The "Not applicable" box may be checked only if the maximum ceiling of the aircraft does not reach FL 290.

18. If special approval for extended diversion time operations (EDTO) is granted based on the provisions §36 of Chapter 4 of these Rules does not apply, check the box "Not applicable". Otherwise, the time and maximum flight time to the alternate aerodrome must be indicated.

19. The threshold time and maximum alternate time may also be expressed in units of distance (NM). Details of each specific aeroplane/engine combination for which the threshold time is established and the maximum alternate time is defined may be provided in the remarks section. Where different approvals are issued, a single line may be used for each approval.

20. The flag for each performance-based navigation (PBN) statement (RNP AR APCH, RNP AR DP) shall be provided on one line opposite each statement with the associated limitations in the Description column.

21. Indicate the name of the organization responsible for ensuring continued airworthiness.

22. Identify the EFB functions used for the safe operation of aircraft and any applicable limitations.

23. Other clearances or data may be provided here using one line (or group of lines) per clearance (e.g. special approach procedure clearance, MNPS, approved navigation performance).

Appendix 6

Requirements for a fatigue risk management system

1. The fatigue risk management system (FRMS) established in accordance with paragraph 179 of Chapter 4 of these Regulations shall include, as a minimum:

1. FRMS Policy and Documentation

§ 1. FRMS Policy

2. The operator shall establish its FRMS policy, which shall include clear specifications of all FRMS elements.

3. The policy establishes a requirement that the scope of the FRMS be clearly stated in the Flight Operations Manual.

4. Politics:

(a) reflects the shared responsibility of managers, flight and cabin crew and other relevant personnel;

b) clearly states the safety objectives of the FRMS;

c) signed by the accountable executive director of the organization;

d) endorsed in a visible place, is communicated to all relevant departments and levels of the organization;

d) contains the obligations of managers regarding the effective presentation of safety reporting information;

e) contains management commitments to provide adequate resources for the FRMS;

g) contains management commitments to continuously improve the FRMS;

(c) requires clear definition of reporting lines for managers, flight and cabin crew and all other relevant personnel;

i) is reviewed periodically to ensure its relevance and adequacy.

§ 2. FRMS documentation

5. The operator shall develop and maintain FRMS documentation that describes and addresses:

a) FRMS policy and objectives;

b) FRMS processes and procedures;

c) the lines of accountability, responsibilities and accountabilities applicable to these processes and procedures;

(d) mechanisms for the continuous involvement of managers, flight and cabin crew and all other relevant personnel;

d) FRMS training programs, personnel training requirements and records of training completion;

e) planned and actual duration of flight time, duty time, duty flight time and rest time, indicating significant discrepancies and their causes;

g) the results of using the FRMS, including conclusions drawn from the data obtained, recommendations and actions taken.

2. Fatigue risk management processes

§ 1. Identification of hazardous factors

6. The operator shall develop and implement three key documented processes for identifying fatigue hazards:

Predictive

As part of the predictive process, fatigue-related hazards are identified by studying crew schedules and taking into account known factors that affect sleep, fatigue, and performance. The following may be studied, among other things:

- operational experience of the industry or operators and data obtained in relation to similar types of flights;
- practice of developing crew work schedules based on demonstrated results;
- biomathematical models.

Preemptive

As part of the proactive process, fatigue-related hazards are identified during routine flight operations. The following may be the subject of study, among others:

- own reports on fatigue-related risks;
- surveys of crews regarding fatigue;
- relevant production data on the performance of flight and cabin crew members;
- existing flight safety databases and scientific research;
- analysis of data on planned and actual time worked.

Correctional

The remediation process identifies the significance of fatigue hazards, taking into account reports and events associated with potential adverse safety consequences, to determine possible ways to minimize the effects of fatigue. The trigger for initiating this process may be at least one of the following:

- fatigue reports;
- confidential reports;
- inspectors' reports;
- incidents;
- flight data analysis.

§ 2. Risk assessment

7. The operator shall develop and implement risk assessment procedures that establish the likelihood and potential severity of fatigue-related events and determine when mitigation measures are required for the associated risks.

8. As part of the risk assessment procedures, the identified hazardous factors are considered in conjunction with:

- operational processes,
- the degree of their probability,
- possible consequences,
- the effectiveness of existing measures to control and ensure flight safety.

§ 3. Risk reduction

9. The operator shall develop and implement risk reduction procedures within the framework of which:

- an appropriate risk mitigation strategy is selected,
- a risk reduction strategy is being implemented,
- the progress of implementation and effectiveness of the strategy is monitored.

3. Flight safety assurance processes using FRMS

10. The operator shall develop and implement safety assurance processes using the FRMS in order to:

(a) continuously monitor FRMS performance, analyse trends and evaluate to validate the effectiveness of fatigue-related safety risk controls. Data sources may include, but are not limited to:

- reports of dangerous conditions and the results of their investigation,
- checks and examinations,
- reviews and studies on fatigue issues;

b) ensuring a formal change control process that includes, among other things:

- identifying changes in the operational environment that may impact the FRMS;
- identifying changes within the organization that may impact the FRMS;
- consideration of existing tools that can be used to maintain or improve the effectiveness of the FRMS prior to implementing changes;

c) ensuring continuous improvement of the FRMS. This includes, but is not limited to:

- elimination and/or modification of those risk management measures that have been associated with undesirable consequences or that are no longer necessary due to changes in operational or organizational conditions;
- regular assessment of resources, equipment, documentation and procedures;
- identifying the need to introduce new processes and procedures to reduce emerging fatigue-related risks.

4. FRMS Promotion Processes

11. FRMS promotion processes support the continuous development of the FRMS, the continuous improvement of its overall performance and the achievement of optimum levels of safety. As part of its FRMS, the operator develops and implements:

(a) training programmes that provide a level of knowledge appropriate to the job responsibilities of managers, flight and cabin crew and all other relevant personnel affected by the planned FRMS;

b) an effective FRMS communication plan that:

- all relevant stakeholders are informed of policies, procedures and responsibilities related to the FRMS;

- describes the communication channels used to collect and disseminate information related to the FRMS.

Appendix 7

Flight recorders

(See §5 of Chapter 6.)

The material contained in this Appendix applies to flight recorders intended for installation in aircraft engaged in international flights. Crash-resistant flight recorders shall incorporate one or more of the following elements:

- flight data recorder (FDR),
- cockpit voice recorder (CVR),
- on-board visual situation recorder (AIR)
- data line recorder (DLR).

If recording of visual or data link information on a crash-resistant flight recorder is required, such recording may be performed using a CVR or FDR.

Lightweight flight recorders include one or more of the following:

- on-board data recording system (ADRS),
- cockpit audio recording system (CARS),
- Airborne Awareness Recording System (AIRS)
- data line registration systems (DLRS).

If recording of visual situation or data link information on a lightweight flight recorder is required, such recording is permitted using CARS or ADRS.

1. General requirements

1. The containers of non-detachable flight recorders are painted bright orange. Containers of non-detachable shock-resistant flight recorders:

- are painted bright orange
- have reflective material to facilitate their detection;
- are equipped with a securely connected and automatically activated device that enables detection under water and operates at a frequency of 37.5 kHz. As soon as possible, but not later than 1 January 2018, the minimum operating time of such a device will be 90 days.

2. Automatically detachable flight recorder containers:

- are painted bright orange, however the surface visible from the outside of the aircraft may be of a different colour;
- have reflective material to facilitate their detection;
- equipped with a built-in automatically triggered ELT.

3. On-board flight data recording systems shall be installed so that:

- the probability of damage to records was minimal;
- there were acoustic or visual means for pre-flight verification of the normal operation of the on-board flight data recording systems;
- if the on-board flight data recording systems contain a device for "total" erasure, their installation shall be designed in such a way as to prevent the

functioning of the device for such erasure during flight time or during an impact in a disaster.

- on aeroplanes for which individual certificates of airworthiness are first issued on or after 1 January 2023, a flight crew-activated erasure function shall be provided in the cockpit which, when activated, will modify the CVR and AIR records so that they cannot be retrieved by normal playback or copying methods. This device shall be designed to prevent its activation in flight. In addition, the likelihood of inadvertent activation of the erasure function as a result of an accident shall be minimized.

Note: The erasure feature is intended to prevent access to CVR and AIR recordings by normal playback or copying means, but it will not prevent accident investigation authorities from accessing such recordings using special playback or copying techniques.

4. The on-board shock-resistant recorders are connected in such a way that they receive power from a bus that ensures maximum reliability of the on-board recorders without affecting the functionality of primary or emergency systems or equipment.

5. Lightweight flight recorders are connected to a power source whose characteristics ensure proper and reliable recording of information under operating conditions.

6. When tested using methods approved by the appropriate certifying authority, onboard flight data recording systems demonstrate their suitability for operation in the extreme environmental conditions for which they were designed.

7. Means are provided for accurate time correlation between records from on-board flight data recording systems.

8. The manufacturer of flight data recording systems shall provide the appropriate certifying authority with the following information regarding on-board flight data recording systems.

– manufacturer's operating instructions, equipment limitations and installation methods;

– the origin or source of the parameter and the equations linking the calculations and units of measurement;

– Manufacturer's test reports.

– detailed information regarding the continued operational suitability of the onboard flight data recording system.

9. The holder of an airworthiness approval document related to the design and installation of an onboard flight data recording system provides the necessary continuing airworthiness information to the aircraft operator for inclusion in the continuing airworthiness program. This continuing airworthiness information contains a detailed statement of all tasks required to maintain the operational suitability of the onboard flight data recording system.

10. The flight data recording system shall include the flight data recorder and any special sensors, hardware and software that provide the information required by this Appendix.

Note.—The conditions relating to the continued operational suitability of the flight data recording system are defined in Section 7 of this Annex.

2. Flight data recorder (FDR) and airborne data recording system (ADRS)

§ 1. Logic of the beginning and end of recording

11. FDR or ADRS begins recording before the aircraft begins to move using its own power and continues recording continuously until the end of the flight, i.e. until the moment when the aircraft can no longer move using its own power.

§2. Parameters subject to registration

12. Flight data recorders are classified as Type I, Type IA, Type II and Type IIA depending on the number of parameters to be recorded and the time for which the recorded information must be retained.

13. The parameters that meet the requirements for flight data recorders (FDRs) are listed in Table A7-1. The number of parameters to be recorded depends on the complexity of the aeroplane. Parameters not marked with an asterisk (*) are mandatory parameters that are recorded regardless of the complexity of the aeroplane. In addition, parameters marked with an asterisk (*) are recorded if the sources of information for such parameters are used by on-board systems or the flight crew to operate the aeroplane. However, these parameters may be replaced by other parameters with due regard to the type of aeroplane and the characteristics of the recording equipment.

14. The following parameters ensure that the requirements for the availability of flight path and speed data are met:

- barometric altitude;
- instrument airspeed or indicated ground speed;
- air-to-ground status and air-to-ground data of each landing gear sensor, when practical;
- total air temperature or outside air temperature;
- true heading (basic standard data for the flight crew);
- normal acceleration;
- lateral acceleration;
- time or relative time counting;
- navigation data*: drift angle, wind speed, wind direction, latitude/longitude;
- ground speed*;
- altitude according to radio altimeter*.

15. The following parameters ensure that the requirements for the availability of aircraft attitude data are met:

- pitch angular position;
- angular position by roll;

- yaw or sideslip angle*;
- angle of attack*.

16. The following parameters ensure that the requirements for availability of engine performance data are met:

- Engine thrust/power: thrust/power of each engine expended on forward motion, position of the thrust/power control lever in the cockpit;
- thrust reverse status*;
- specified thrust change*;
- estimated engine thrust*;
- position of the engine air bleed valve*;
- additional engine operating parameters*: engine pressure ratio (EPR), N1 speed, actual vibration level, N_2 speed, exhaust gas temperature (EGT), TLA, fuel consumption, engine stop lever position, N_3 speed.

17. The following parameters ensure that the requirements for the availability of configuration data are met:

- elevator trim surface position;
- Flaps*: flap position, cockpit switch position;
- slats*: slat position, cockpit switch position;
- chassis*: chassis, position of the chassis control lever;
- position of the rudder trim surface*;
- aileron trim surface position*;
- position of the elevator trim control lever* in the cockpit;
- position of the aileron trim control lever* in the cockpit;
- position of the rudder trim control lever* in the cockpit;
- ground positioninterceptors and aerodynamic braking devices*:
- ground positioninterceptor, ground interceptor switch position, aerodynamic braking device position, aerodynamic braking device switch position;
- the position of the switches of the permanent anti-icing system andperiodic anti-icing system*;
- hydraulic pressure (each system)*;
- amount of fuel in the centering tank (CG)*;
- aircraft AC bus status*;
- Aircraft DC bus status*;
- position of the air bleed valve from the auxiliary power unit*;
- calculated centering*.

18. The following parameters ensure that the requirements for availability of operating conditions data are met:

- warnings;
- primary flight controls and pilot commands to primary controlsaircraft: pitch axis, roll axis, yaw axis;
- marker beacon flight;
- selection of each frequency in the navigation receiver;
- Manually controlled radio transmissions and CVR/FDR synchronization;

- autopilot/autothrottle/automatic flight control system operating mode andtheir "ON-OFF" state*;
- selected barometric pressure setting*: pilot, co-pilot;
- selected altitude (all pilot-selectable operating modes)*;
- selected speed (all pilot-selectable operating modes)*;
- selected Mach number (all pilot-selectable operating modes)*;
- selected vertical speed (all pilot-selectable operating modes)*;
- selected true course (all pilot-selectable operating modes)*;
- selected flight path (all pilot selectable operating modes)*: course/linegiven path, course angle;
- selected decision height*;
- aircraft electronic flight control system display format(EFIS)*: pilot, co-pilot;
- Multi-function display/engine and readiness mode display format*;
- GPWS/TAWS/GCAS* system status: terrain display mode selection including pop-up display status, ground proximity warnings and alerts, advisory messages, ON-OFF switch position;
- Low pressure warning*: hydraulic pressure, pneumatic pressure;
- computer failure*;
- cabin depressurization*;
- TCAS/ACAS (Traffic Traffic Alert and Collision Avoidance System/Airborne Collision Avoidance System)*;
- ice alarm*;
- Vibration alarm for each engine*;
- maximum temperature alarm for each engine*;
- Low oil pressure alarm for each engine*;
- Overspeed alarm for each engine*;
- wind shear alarm*;
- anti-stall alarm in flight, activation of the automatic shaking device and steering wheel pusher*;
- forces on all flight controls in the cockpit*: control wheel, control column, forces on the rudder control pedals in the cockpit;
- vertical deviation*: ILS glide path, MLS elevation, GNSS approach path;
- Horizontal deviation*: ILS localizer, MLS azimuth, GNSS approach path;
- distance from DME 1 and 2*;
- Primary navigation reference system*: GNSS, INS, VOR/DME, MLS,Loran C, ILS;
- brakes*: pressure in the right and left brakes, position of the left and right brake pedals;
- date*;
- event label*;
- used head-up display*;
- Paravisual display on*.

19. FDR Type IA This FDR is capable of providing aircraft-appropriate recording of at least the 78 parameters listed in Table A7-1.

20. FDR Type I This recorder is capable of providing aircraft-appropriate recording of at least the first 32 parameters listed in Table A7-1.

21. FDR Types II and IIA These recorders are capable of providing aircraft-appropriate recording of at least the first 16 parameters listed in Table A7-1.

22. If additional opportunities for registration using FDR are available, the following additional information may be considered for registration:

a) flight information from electronic display systems such as the aircraft's electronic flight information system (EFIS), electronic centralised flight monitor (ECAM) and engine indicating and crew alerting system (EICAS). Use the following order of priority:

1) parameters selected by the flight crew related to the intended flight path such as barometric pressure, altitude, airspeed, decision altitude and the activation and mode of operation of the automatic flight control system, unless recorded by another source;

2) selection/state of the indication system (SECTOR, PLAN, ROSE, NAV, WXR, COMPOSITE, COPY and other corresponding indication modes or options);

3) warnings and emergency signals;

4) identifier of pages displaying emergency procedures and checklists;

b) information on aircraft deceleration, including information on the application of brakes, for use in investigating runway excursions and rejected take-offs.

23. The following parameters are required to meet the requirements for having flight path and speed data displayed to the pilot(s). Parameters not marked with an asterisk (*) are mandatory parameters to record. In addition, parameters marked with an asterisk (*) are recorded if the source of the parameter's information is displayed to the pilot and it is appropriate to record it:

– barometric altitude;
– indicated airspeed or indicated airspeed;
– course (basic standard data for the flight crew);
– pitch position;
– roll position;
– thrust/engine power;
– chassis position*;
– total flow temperature or outside air temperature*;
- time*;
– navigation data*: drift angle, wind speed, wind direction, latitude/longitude;
– altitude according to radio altimeter*.

24. The parameters that satisfy the requirements for ADRS are the first 7 parameters listed in Table A7-3.

25. If it is possible to register additional parameters in ADRS, the question of the advisability of registering any parameters specified in Table A7-3, starting with 8 and further, is considered.

§ 3. Additional information

26. The Type IIA FDR retains, in addition to a 30-minute record, sufficient information from the previous take-off for calibration purposes.

27. The measurement range, recording interval and recording accuracy of the parameters of the installed equipment shall be verified using methods approved by the relevant certification authority.

28. Documentation concerning parameter distributions, conversion equations, periodic calibration, and other information on the serviceability and maintenance of the recorders shall be maintained by the operator. The extent of this documentation shall be sufficient to provide accident investigation authorities with all the information necessary to read the data in engineering units.

3. Cockpit voice recorder (CVR) and a sound environment recording system in the cockpit (CARS)

§ 1. Logic of the beginning and end of recording

29. CVR or CARS begins recording before the aircraft begins to move using its own power and continues recording continuously until the end of the flight, i.e. until the moment when the aircraft can no longer move using its own power.

Additionally, depending on the availability of electrical power, the CVR or CARS shall begin recording as early as possible during the pre-flight cockpit check prior to engine start at the start of the flight and shall continue recording until the end of the cockpit check conducted immediately after engine shutdown at the end of the flight.

§2. Signals subject to registration

30. The CVR provides simultaneous recording on four or more separate channels of at least the following:

- external two-way voice communication carried out via radio on board an aircraft;
- sound environment in the cockpit;
- voice communications in the cockpit between flight crew members using the intercom system, if installed;
- speech or sound signals for identification of air navigation aids or landing approach aids, transmitted to the flight crew via headphones or a loudspeaker;
- voice communication of flight crew members using the passenger communication system, if installed.

31. The preferred allocation of CVR audio recording channels should be as follows:

a) aircraft commander's audio console;

b) co-pilot audio console;

c) work stations of other flight crew members and the timekeeping system;

d) microphone in the flight deck.

32. CARS provides simultaneous recording on two or more separate channels of at least the following:

- external two-way voice communication carried out via radio on board an aircraft;

- sound environment in the cockpit;

- voice communications in the cockpit between flight crew members using the intercom system, if installed.

33. The CVR is capable of recording information simultaneously on at least four channels.

34. The preferred allocation of CARS audio recording channels shall be as follows:

a) speech communication;

b) the sound environment in the flight deck.

4. Automatically Releaseable Flight Recorder (ADFR)

§ 1. Operating mode

35. The following requirements apply to ADFR:

– separation occurs when the aircraft structure is significantly deformed;

– separation occurs when the aircraft is submerged in water;

– ADFR is not capable of manual separation;

– ADFR is non-sinking;

– ADFR separation does not jeopardize the safe continuation of the flight;

– separation of ADFR does not significantly reduce the probability of maintaining the recorder’s functionality and successful transmission of information to the ELT built into it;

– ADFR is separated as only one block;

– a warning signal is issued to the flight crew when the ADFR has completely separated from the aircraft;

– the flight crew cannot lock the ADFR compartment while the aircraft is airborne;

– The ADFR has a built-in ELT that is automatically turned on upon separation. These ELTs can be of the type that are turned on in flight and transmit information that can be used to determine the location;

– An ELT integrated into an ADFR meets the same requirements as an ELT that must be installed on an aircraft. An integrated ELT shall, at a minimum, have characteristics similar to those of a fixed ELT to maximize the probability of detection of the signal it transmits.

If the ELT integrated into the ADFR is of a type that is activated in flight, it may constitute a means of complying with the requirements of §29 of Chapter 6 of these Regulations.

5. Airborne image recorder (AIR) and the Airborne Awareness Recording System (AIRS)

§ 1. Classes

36. Class A AIR or AIRS records the overall visual environment in the cockpit to provide data that complements the parameters recorded by conventional flight recorders.

In order to respect the privacy of flight crew members, the view of the flight deck may, as far as practicable, be designed so that the heads and shoulders of flight crew members are not visible when they are normally seated at their workstations. There are no provisions in this document for Class A AIR or AIRS.

37. AIR or AIRS Class B records messages displayed on data link displays.

38. A Class C AIR or AIRS records instrument display data and control panel positions. A Class C AIR or AIRS may serve as a means of recording flight data when it is impractical or too expensive to record this data on an FDR or ADRS, or when an FDR is not required to be installed.

§ 2. Operation

39. AIR or AIRS shall begin recording before the aircraft begins to move under its own power and shall continue recording continuously until the end of the flight, i.e. until the aircraft can no longer move under its own power. Additionally, depending on the availability of electrical power, AIR or AIRS shall begin recording as early as possible during the preflight check in the cockpit prior to engine start at the start of the flight and shall continue recording until the end of the cockpit check conducted immediately after the engines are shut down at the end of the flight.

§ 3. Types of application subject to registration

40. The operation of switches and controls and the information displayed to the flight crew are recorded by image sensors or other electronic means.

41. Recording of flight crew member manipulation of switches and controls includes the following:

- any switch or control that affects the operation and navigation of an aircraft;
- selection of working and backup systems.

42. The recording of information displayed to flight crew members on electronic displays includes the following:

- display of primary flight and navigation information;
- display of on-board systems control information;

- display of engine operating parameters;
- display of information about movement, terrain and weather data;
- display of information provided by crew warning systems;
- backup systems;
- installed EFB, as appropriate.

43. The image sensors are used in such a way that the heads and shoulders of flight crew members in their normal positions at their work stations are not included in the frame.

6. Data Line Recorder (DLR)

§ 1. Types of application subject to registration

44. When the flight path of an aircraft is cleared and monitored using data link communications, all data link communications, both uplink (to the aircraft) and downlink (from the aircraft), shall be recorded on board the aircraft. To the extent practicable, the time at which the communications are displayed on the flight crew displays shall be recorded, as shall the time of response. In order to accurately determine the sequence of events on board the aircraft, sufficient information shall be available to establish the content of communications transmitted over the data link channels and the time at which the communications are displayed on the flight crew displays.

45. Messages associated with the applications listed in Table A7-2 are logged. Applications not marked with an asterisk (*) are mandatory applications that are logged regardless of the complexity of the system. Applications marked with an asterisk (*) are logged only to the extent possible given the system architecture.

7. Airborne Data Recording System (ADRS)

§ 1. Parameters subject to registration

46. The ADRS shall provide aircraft-specific recording of at least the essential (E) parameters listed in Table A7-3.

§ 2. Additional information

47. The measurement range, recording interval and accuracy of parameters on installed equipment are generally verified using methods approved by the relevant certification authority.

48. The operator shall maintain documentation regarding parameter distributions, transformation equations, periodic calibration and other serviceability/maintenance related information. Such documentation shall be sufficient to ensure that the necessary information is provided to accident investigation authorities for the reading of data in engineering units.

8. Checks of on-board systems flight data recording

49. Prior to the first flight of the day, a control test of the on-board devices for monitoring the operation of the flight recorders and the flight data acquisition unit (FDAU), if installed on board, is carried out by conducting checks in manual and/or automatic modes.

50. For FDR or ADRS systems, CVR or CARS systems, AIR or AIRS systems, the interval between data recording system inspections shall be one year; subject to approval by the appropriate regulatory authority, this period may be extended to two years if these systems have demonstrated a high level of reliability and self-monitoring. For DLR or DLRS systems, the interval between data recording system inspections shall be two years; subject to approval by the appropriate regulatory authority, this period may be extended to four years if these systems have demonstrated a high level of reliability and self-monitoring.

51. Data registration checks are carried out in the following order:

а) Analysis of data recorded by flight recorders is carried out in order to verify that the recorder is functioning properly during the established recording period;

б) During the analysis of the FDR or ADRS performance, the quality of the data recording is assessed to determine that the bit error rate (including those errors introduced by the recorder, the data extraction unit, the on-board data source, and the technical means used to read data from the recorder) is within acceptable limits, and to determine the nature and distribution of the errors;

в) FDR or ADRS data for the entire flight shall be analysed in technical units to assess the suitability of all recorded parameters. Particular attention shall be paid to parameters coming from sensors operating in conjunction with the FDR or ADRS. Parameters taken from the aircraft's electrical busbar system need not be checked if their operational suitability can be determined using other aircraft systems;

г) the reading device has the necessary software for the purpose of accurately converting the registered values into technical units and determining the status of discrete signals;

д) Testing of CVR or CARS signal recordings is performed by playing back recordings made by the CVR or CARS. Once a CVR or CARS is installed on board an aircraft, test signals of each source on board the aircraft, as well as other appropriate external sources, are recorded to ensure that all required signals meet standard intelligibility requirements;

е) To the extent practicable, during the inspection of a sample of the recordings made by the CVR or CARS in flight, a check shall be made to ensure that the signals are sufficiently intelligible;

ж) Verification of recorded AIR or AIRS visual data is performed by replaying the AIR or AIRS recordings. The AIR or AIRS installed on board the aircraft records visual test data from each on-board source and the appropriate external sources to ensure that all required visual data meet the recording quality standards.

з) Verification of messages recorded by DLR or DLRS is carried out by replaying the DLR or DLRS recordings.

52. A flight data recording system is considered to be faulty if, over a sufficiently long period of time, the data recording quality was poor, the recorded signals were unintelligible, or one or more mandatory parameters were recorded incorrectly.

53. A report on the completed audit of the data recording system is sent to the competent regulatory authorities upon request for control purposes.

54. Calibration of the FDR system:

(a) The system shall be recalibrated for parameters from sensors intended only for operation with the FDR and not verified by other means at intervals determined on the basis of continuing airworthiness information relating to the FDR system. In the absence of such information, recalibration shall be performed at least every five years. Recalibration shall be performed to identify any discrepancies in the technical conversion programmes for the mandatory parameters and to ensure that the parameters are recorded within the tolerances established during calibration;

b) where the altitude and airspeed parameters are obtained from sensors that are designed to operate with the FDR system, recalibration shall be performed at intervals determined on the basis of continuing airworthiness information related to the FDR system. In the absence of such information, recalibration shall be performed at least every two years.

Table A7-1. Parametric characteristics flight data recorders

Ordinal number	Parameter	Applicability	Measurement range	Max. sampling and data recording interval (With)	Accuracy limits (sensor input signals (compared to FDR readout data)	Registration resolution
1	Time (UTC if provided, otherwise relative time or GNSS time synchronization)		24 h.	4	±0.125% per hour	1 s
2	Barometric altitude		From -300 m (-1000 ft) to maximum certified aircraft altitude +1500 m (+5000 ft)	1	From ±30 to ±200 m (from ±100 to ±700 ft)	1.5 m (5 ft)
3	Indicated airspeed or indicated airspeed		From 95 km/h (50 kt) to maximum Vs° (note 1) From Vso to 1.2 Vd (note 2)	1	±5% ±3%	1 knot (0.5 knot - recommended)
4	Course (basic standard data for flight crew)		360°	1	±2°	0.5°
5	Normal acceleration *(note 8*)	Application for type certificate submitted to Contracting State before 1 January 2016	From -3 to +6 g	0.125	±1% of maximum range, excluding error in original data ±5%	0.004 g
		The application for a type certificate is submitted to a Contracting State on or after 1 January 2016	From -3 to +6 g	0.0625	±1% of maximum range, excluding error in original data ±5%	0.004 g
6	Pitch position		±75o or working range, whichever is greater	0.25	±2°	0.5°
7	Roll position		±180°	0.25	±2°	0.5°
8	Manipulation in radio transmission		On - off (one separate position)	1		
9	Power of each engine *(note 3)*		The whole range	1 (per engine)	±2%	0.2% of the full range or the resolution required to control the aircraft

10*	Selecting the flap position and control in the cockpit		The entire range or each individual position	2	±5% or as indicated by the pilot	0.5% of the full range or the resolution required to control the aircraft
11*	Selecting the position of the slats and their control in the cockpit		The entire range or each individual position	2	±5% or as indicated by the pilot	0.5% of the full range or the resolution required to control the aircraft
12*	Position of the thrust reverser lever		In retracted, intermediate and reverse positions	1 (on each engine)		
13*	Ground Spoiler/Air Brakes Position Selection (Select and Position)		The entire range or each individual position	1	±2% unless higher accuracy is exceptionally required	0.2% of the total range
14	Outside air temperature		Sensor range	2	±2 0C	0.3 °C
15*	Turning autopilot/autothrottle/automatic flight control system mode on or off		A suitable combination individual actions	1		
16	Longitudinal acceleration *(note 8)*	Application for type certificate submitted to Contracting State before 1 January 2016	±1 g	0.25	±0.015 g, excluding the error in the original data ±0.05 g	0.004 g
		The application for a type certificate is submitted to a Contracting State on or after 1 January 2016	±1 g	0.0625	±0.015 g, excluding the error in the original data ±0.05 g	0.004 g
17	Lateral acceleration *(note 8)*	Application for type certificate submitted to Contracting State before 1 January 2016	±1 g	0.25	±0.015 g, excluding the error in the original data ±0.05 g	0.004 g
		The application for a type certificate is submitted to a Contracting State on or after 1 January 2016	±1 g	0.0625	=0.015 g, excluding the error in the original data =0.05 g	0.004 g

18	Pilot actions and/or control surface positions - primary controls (pitch, roll, yaw) (Notes 4 and 8)	Application for type certificate submitted to Contracting State before 1 January 2016	The whole range	0.25	±2o, unless higher accuracy is exceptionally required	0.2% of full range or depending on setting
		The application for a type certificate is submitted to a Contracting State on or after 1 January 2016	The whole range	0.125	±2° unless higher accuracy is exceptionally required	0.2% of full range or depending on setting
19	Elevator trim position		The whole range	1	±3% unless higher accuracy is exceptionally required	0.3% of full range or depending on setting
20*	Altitude by radio altimeter		From -6 to 750 m (from -20 to 2500 ft)	1	±0.6 m (±2 ft) or ±3%, whichever is greater below 150 m (500 ft), and ±5% above 150 m (500 ft)	0.3m (1ft) below 150m (500ft) 0.3m (1ft) + 0.5% of total range above 150m (500ft)
21*	Vertical deviation from beam (ILS/GNSS/GLS glide path, MLS elevation, IRNAV/IAN vertical deviation)		Signal range	1	±3%	0.3% of the total range
22*	Horizontal deviation from beam (ILS/GNSS/GLS localizer, MLS azimuth, IRNAV/IAN lateral deviation)		Signal range	1	±3%	0.3% of the total range
23	Passage of marker radio beacons		Separately	1		
24	Centralized alarm systems		Separately	1		
25	Selecting the NAV receiver frequency (Note 5)		The whole range	4	Depending on the installation	
26*	DME range 1 and 2 (includes distance from runway threshold (GLS) and distance to missed approach point (IRNAV/IAN)) (Notes 5 and 6)		0 - 370 km (0 - 200 NM)	4	Depending on the installation	1852 m (1 NM)
27	Air-to-ground status		Separately	1		

28*	GPWS/TAWS/GCAS (selection of terrain display mode, including pop-up display status) and (ground proximity warnings, alerts and advisories) and (on/off switch position)		Separately	1		
29*	Angle of attack		The whole range	0.5	Depending on the installation	0.3% of the total range
30*	Each hydraulic system (low pressure)		Separately	2		0.5% of the total range
31*	Navigation data (latitude/longitude, ground speed and drift angle) (Note 7)		Depending on the installation	1	Depending on the installation	
32*	Position of the chassis and chassis control lever		Separately	4	Depending on the installation	
33*	Ground speed		Depending on the installation	1	Data should be taken from the most accurate system.	1 knot
34	Brakes (pressure in left and right brakes, position of left and right brake pedals)		(Maximum measurable brake range, individually or entire range)	1	± 5%	2% of the total range
35*	Additional engine operating parameters (EPR, N1 speed, actual vibration level, N2 speed, exhaust gas temperature (EGT), fuel consumption, engine stop lever position, N3 speed, engine fuel metering valve position)	Position of the engine fuel metering valve; application for type certification submitted to the Contracting State on or after 1 January 2023	Depending on the installation	Every engine every second	Depending on the installation	2% of the total range
36*	TCAS/ACAS (Traffic Information and Collision Avoidance System/Airborne Collision Avoidance System)		Separately	1	Depending on the installation	
37*	Wind shear alarm		Separately	1	Depending on the installation	
38*	Selected barometric pressure setting (pilot, co-pilot)		Depending on the installation	64	Depending on the installation	0.1 mbar (0.01 inHg)
39*	Selected altitude (all pilot selectable operating modes)		Depending on the installation	1	Depending on the installation	Sufficient to determine the value chosen by the crew

40*	Selected speed (all pilot selectable operating modes)		Depending on the installation	1	Depending on the installation	Sufficient to determine the value chosen by the crew
41*	Selected Mach Number (all pilot selectable operating modes)		Depending on the installation	1	Depending on the installation	Sufficient to determine the value chosen by the crew
42*	Selected vertical speed (all pilot selectable operating modes)		Depending on the installation	1	Depending on the installation	Sufficient to determine the value chosen by the crew
43*	Selected course (all pilot selectable operating modes)		Depending on the installation	1	Depending on the installation	Sufficient to determine the value chosen by the crew
44*	Selected flight path (all pilot selectable modes of operation) (heading/target track (DSTRK), track, final approach path (IRNAV/IAN))			1	Depending on the installation	Depending on the installation
45*	Selected decision height		Depending on the installation	64	Depending on the installation	Sufficient to determine the value chosen by the crew
46*	Electronic Flight Instrumentation System (EFIS) Display Format (Pilot, Co-Pilot)		Separately	4	Depending on the installation	
47*	Multi-function display/engine display/alarm display format		Separately	4	Depending on the installation	
48*	AC Bus Status		Separately	4	Depending on the installation	
49*	DC Bus Status		Separately	4	Depending on the installation	
50*	Position of the engine air bleed valve		Separately	4	Depending on the installation	
51*	Position of the air bleed valve from the APU		Separately	4	Depending on the installation	
52*	Computer failure		Separately	4	Depending on the installation	
53*	Specified thrust change		Depending on the installation	2	Depending on the installation	
54*	Estimated engine thrust		Depending on the installation	4	Depending on the installation	2% of the total range
55*	Calculated alignment		Depending on the installation	64	Depending on the installation	1% of the total range

56*	Fuel quantity in centering tank (CG)		Depending on the installation	64	Depending on the installation	1% of the total range
57*	The collimator indicator used		Depending on the installation	4	Depending on the installation	
58*	Paravisual display on/off.		Depending on the installation	1	Depending on installations	
59*	In-flight stall protection alarm, automatic shaking and control wheel pusher activation		Depending on the installation	1	Depending on the installation	
60*	Primary navigation orientation system (GNSS, INS, VORDME, MLS, Loran C, glide path localizer)		Depending on the installation	4	Depending on the installation	
61*	Ice alarm		Depending on the installation	4	Depending on the installation	
62*	Vibration alarm for each engine		Depending on the installation	1	Depending on the installation	
63*	Alarm about maximum temperature of each engine		Depending on the installation	1	Depending on the installation	
64*	Low oil pressure alarm for each engine		Depending on the installation	1	Depending on the installation	
65*	Overspeed alarm for each engine		Depending on the installation	1	Depending on the installation	
66*	Rudder trim surface position		The whole range	2	=3%, unless higher accuracy is required as an exception	0.3% of the total range
67*	Aileron trim surface position		The whole range	2	=3%, unless higher accuracy is required as an exception	0.3% of the total range
68*	Yaw or sideslip angle		The whole range	1	=5%	0.5°
69*	Position of switches of continuous anti-icing system and intermittent anti-icing system		Separately	4		
70*	Hydraulic pressure (each system)		The whole range	2	=5%	100 psi
71*	Cabin depressurization		Separately	1		
72*	Position of the elevator trim control lever in the cockpit		The whole range	1	=5%	0.2% of full range or depending on setting
73*	Position of the aileron trim control lever in the cockpit		The whole range	1	=5%	0.2% of full range or

						depending on setting
74*	Position of the rudder trim control lever in the cockpit		The whole range	1	=5%	0.2% of full range or depending on setting
75*	Forces on all flight controls in the cockpit (yoke, control column, forces on the rudder pedals)		Full range (±311 N (±70 lbf), ±378 N (±85 lbf), ±734 N (±165 lbf))	1	±5%	0.2% of full range or depending on setting
76*	Event marker		Separately	1		
77*	Date		365 days	64		
78*	ANP or EPE or EPU		Depending on the installation	4	Depending on the installation	
79*	Barometric altitude in the cabin	Application for type certificate submitted to the Contracting State on or after 1 January 2023	Depending from installation (recommended from 0 to 40,000 ft)	1	Depending on the installation	100 feet
80*	Estimated weight of the aircraft	Application for type certificate submitted to the Contracting State on or after 1 January 2023	Depending on the installation	64	Depending on the installation	1% of the total range
81*	Command signal (CS) of the flight director (FDI)	Application for type certificate submitted to the Contracting State on or after 1 January 2023	The whole range	1	±2°	0.5°
82*	Vertical speed	Application for type certificate submitted to the Contracting State on or after 1 January 2023	Depending on the installation	0.25	Depending on the installation (32 fpm recommended)	16 ft/min.

Notes:

1. VSo – stall speed or minimum speed of steady flight in landing configuration is given in the section "Abbreviations and symbols".

2. VD – estimated dive speed.

3. Record sufficient input data to determine power.

4. For aircraft with control systems in which the movement of a control surface is reversible to a pilot control action, the word "or" is applicable. For aircraft with control systems in which the movement of a control surface is irreversible to a pilot control action, the word "and" is applicable. For aircraft with surfaces consisting of separate sections, instead of recording the position of each surface separately, recording a combination of actions is acceptable.

5. If the signal is in digital form.

6. The preferred alternative is to record latitude and longitude obtained from an INS or other navigation system.

7. If signals can be easily received.

8. It is not intended that aeroplanes for which individual certificates of airworthiness were issued before 1 January 2016 will be modified to comply with the guidance in this Annex regarding the measurement range, maximum sampling and recording interval, accuracy limits or recording resolution.

Table A7-2. Description of Applications for data line recorder

Item number	Type of application	Description of application	Registered content
1	Initiating a data line	This includes any application used to log on to or initiate data link service. In the FANS-1/A and ATN environments, these are ATS Notification (AFN) and Context Management (CM), respectively.	C
2	Communication "dispatcher - pilot"	This includes any applications used to exchange requests, clearances, instructions and reports between the flight crew and ground controllers. In the FANS-1/A and ATN environments, this includes the use of CPDLC. It also includes applications used to exchange oceanic clearances (OCLs) and departure clearances (DCLs), as well as data link transmission of taxi clearances.	C
3	Targeted surveillance	This includes surveillance applications whereby the state enters into contracts to provide surveillance data. In FANS-1/A and ATN environments this includes the use of Automatic Dependent Surveillance-Contract (ADS-C). Where parametric data are provided within messages, they are recorded unless data from the same source are recorded by the FDR.	C
4	Flight information	This includes any service used to provide flight information to a specific aircraft. For example, this includes the data link aviation weather report service (D-METAR), the data link automatic terminal information service (D-ATIS), digital NOTAM (D-NOTAM) and any other data link text information transmissions.	C
5	Aircraft surveillance broadcasting	This includes elementary and advanced surveillance systems, as well as Automatic Dependent Surveillance-Broadcast (ADS-B) output. When parametric data sent from an aircraft is provided within messages, it is recorded unless data from the same source is recorded by the FDR.	M*
6	Aviation operational control data	This includes any applications involving the transmission or receipt of data used for aeronautical operational control (AOC) purposes (as defined by ICAO AOC)	M*

Symbol:

C – the full content is recorded;

M – information that allows correlation with any relevant records stored separately from the aircraft;

* – the application is registered only to the extent practicable, taking into account the system architecture.

Table A7-3. Description of Applications for data line recorder

No.	Parameter name	Minimum registration range	Maximum registration interval (s)	Minimum registration accuracy	Minimum registration resolution	Notes
1	Well					
	a) Course (magnetic or true)	±180°	1	±2°	0.5°	Preferably, the heading is recorded; if absent, the yaw rate is recorded.
	b) Yaw angular velocity	±300°/s	0.25	±1% + drift 360°/h	2°/s	
2	Pitch					
	a) Pitch position	±90°	0.25	±2°	0.5°	Pitch position is preferred, if absent, pitch angular velocity is recorded
	b) Pitch angular velocity	±300°/s	0.25	±1% + drift 360°/h	2°/s	
3	Bank					
	a) Roll position	±180°	0.25	±2°	0.5°	Preferably the roll position, if absent, then the roll angular velocity is recorded
	b) Roll rate	±300°/s	0.25	±1% + drift 360°/h	2°/s	
4	Location system:					
	a) Time	24 h	1	±0.5 s	0.1 s	UTC time is preferred if available
	b) Latitude/longitude	Latitude: ±90° Longitude: ±180°	2 (1 if available)	Depending on the installation (recommended 0.00015°)	0.00005°	

	c) Absolute height	-300 m (-1,000 ft) to max certified absolute altitude of the aircraft +1500 m (5000 ft)	2 (1 if any)	Depending on installation (±15 m (±50 ft) recommended)	1.5 m (5 ft)	
	d) Ground speed	0-1000 knots	2 (1 if any)	Depending on installation (±5 kt recommended)	1 knot	
	e) Path line	0-360°	2 (1 if any)	Depending on installation (±2° recommended)	0.5°	
	f) Calculated error	Available range	2 (1. if any)	Depending on the installation	Depending on the installation	Registered if available
5	Normal acceleration	From - 3 to + 6 g (*)	0.25 (0.125 if available)	Depending on the installation (recommended ±0.09 g, excluding the error in the original data ±0.45 g)	0.004 g	
6	Longitudinal acceleration	±1 g (*)	0.25 (0.125. if any)	Depending on the installation (recommended ±0.015 g, excluding the error in the original data ±0.05 g)	0.004 g	
7	Lateral acceleration	±1 g (*)	0.25 (0.125 if available)	Depending on the installation (recommended ±0.015 g, excluding the error in the original data ±0.05 g)	0.004 g	
8	External static pressure (or pressure height)	From 34.4 mbar (3.44 inHg) to 310.2 mbar (31.02 inHg) or available sensor range	1	Depending on installation (±1 mbar (0.1 inHg) recommended) or ±30 m (±100 ft) to ±210 m (±700 ft)	0.1 mbar (0.01 inHg) or 1.5 m (5 ft)	
9	Outside air temperature (or total air flow temperature)	From -50 to +90 C or available sensor range	2	Depending on installation (±2°C recommended)	1 °C	
10	Indicated airspeed	Dependi ng on the installation of the pilot's measuring indicator system	1	Depending on the installation (recommended =3%)	1 knot (0.5 knot recommend ed)	

		or the available sensor range				
11	Engine speed	The whole range. including engine overspeed conditions	Every engine every second	Depending on the installation	0.2% of the total range	
12	Engine oil pressure	The whole range	Every engine every second	Depending on installation (5% of total range recommended)	2% of the total range	
13	Engine oil temperature	The whole range	Every engine every second	Depending on installation (5% of total range recommended)	2% of the total range	
14	Fuel consumption or pressure	The whole range	Every engine every second	Depending on the installation	2% of the total range	
15	Boost pressure	The whole range	Every engine every second	Depending on the installation	0.2% of the total range	
16	Engine thrust/power/torque parameters required to determine effective thrust/power*	The whole range	Every engine every second	Depending on the installation	0.1% total*	Sufficient range parameters, such as EPR/N1 or torque/Np, corresponding to a specific engine are recorded to determine the engine power both in normal operation and with thrust reverser engaged. A limit should be provided for possible overspeed
17	Engine gas generator speed (Ng)	0-150%	Every engine every second	Depending on the installation	0.2% of the total range	
18	Free power turbine speed (Nf)	0-150%	Every engine every second	Depending on the installation	0.2% of the total range	
19	Coolant temperature	The whole range	1	Depending on installation (±5°C recommended)	1 °C	
20	Network voltage	The whole range	Every engine every second	Depending on the installation	1 B	

21	Cylinder head temperature	The whole range	Every cylinder every second	Depending on the installation	2% of the total range	
22	Flaps position	The entire range or each individual position	2	Depending on the installation	0.5°	
23	Position of primary flight control surfaces	The whole range	0.25	Depending on the installation	0.2% of the total range	
24	Amount of fuel	The whole range	4	Depending on the installation	1% of the total range	
25	Exhaust gas temperature	The whole range	Every engine every second	Depending on the installation	2% of the total range	
26	Emergency voltage	The whole range	Every engine every second	Depending on the installation	1 B	
27	Trimmer surface position	The entire range or each individual position	1	Depending on the installation	0.3% of the total range	
28	Chassis position	Each individual position*	Each chassis every 2 sec	Depending on the installation		* Where possible, the "retracted and locked" position and the "released and locked" position are recorded.
29	New/unique aircraft features	As needed	As needed	As needed	As needed	

Appendix 8

Determining the location of an aircraft in distress

(see §29 of Chapter 6)

1. Purpose and scope of application

1. The purpose of determining the location of an aircraft in distress is to establish, within acceptable limits, the location of the aircraft accident within a radius of 6 NM.

2. Procedure

2. An aircraft in distress shall automatically initiate the transmission of information on the basis of which the operator can determine its position, and this position information shall contain a time stamp. It shall also be possible to initiate such transmission manually. The system used for the autonomous transmission of position information shall be capable of transmitting such information in the event of failure of the on-board electrical power system, at least for the expected duration of the entire flight.

3. An aircraft is in a distress condition when such a condition may result in an accident if the aircraft's abnormal behaviour is not corrected. Autonomous position reporting shall be initiated when an aircraft is in a distress condition. This shall provide a high probability of locating the accident within a 6 NM radius. When an aircraft is in distress, the operator shall be alerted with an acceptably low false alarm rate. When the reporting system is activated, initial position reporting shall commence immediately or no later than 5 s after detection of the initiating event.

Events that characterize aircraft behavior deviations may include, but are not limited to, unusual altitude, unusual speed, terrain collision warnings, or all-engine power/thrust warnings and ground proximity warnings.

A distress alert may be initiated based on criteria that may vary depending on the aircraft's position and phase of flight. Further guidance on in-flight event detection and information transmission initiation criteria is provided in EUROCAE ED-237, Minimum Aviation System Performance Specification (MASPS) Criteria for In-Flight Aircraft Distress Detection to Initiate Flight Information Transmission.

4. In the event that an aircraft operator or an air traffic services unit (ATSU) has reason to believe that an aircraft is in distress, the ATSU and the aircraft operator shall coordinate their actions.

5. The civil aviation authority shall determine the relevant organizations that need to have information on the location of an aircraft in an emergency phase. Such organizations shall include, at a minimum:

a) air traffic services unit(s) (ATSU);

b) search and rescue coordination centre(s) (RCC) and sub-centre(s) for search and rescue (SAR).

6. Once the autonomous positioning information transmission system has been activated, it can only be deactivated using the same mechanism that activated it.

7. The accuracy of the position information shall at least meet the accuracy requirements for position information established for the ELT.

Instructions for determining the location an airplane in distress

1. Introduction

1. The following material provides guidance on the issue of determining the position of an aircraft in distress. The Triggered Flight Data Working Group (TTFDWG) analyzed 42 aircraft accidents to obtain an understanding of the distance between the last known position of the aircraft and the accident site. The Working Group's report indicates that in approximately 95% of the accidents, the aircraft's position was known one minute before the accident, and the accident site was within 6 NM of that position. (The TTFDWG report is available in the Publications section of the website: https://www.bea.aero/en/).

2. In the event that an aircraft is submerged in water as a result of an accident, the location of the accident site within a 6 NM radius on the surface becomes even more important. Starting the search in an area beyond the 6 NM radius reduces the time available to search and detect the low-frequency ULB. An area with a 6 NM radius can be searched in four days with the current estimated underwater search capability of 100 km² per day. Adding the time for the marine assets to arrive at the search area and conduct the search, it is estimated that an area of 2,300 km², equivalent to an area with a radius of 14 NM, can be searched before the ULB battery runs out. Starting the search in an area with a radius greater than 6 NM reduces the probability of successfully locating the accident site initially, and expanding the area beyond the 6 NM radius reduces the available search time without any appreciable increase in the probability of detection.

2. Explanation of the purpose of the equipment

3. Information from which a position can be determined: information that is either provided by an operational on-board system or that, when triggered automatically or manually, can provide position information that includes a time stamp. This performance-based requirement is not tied to a specific system and may also provide operational benefits.

4. Emergency Locator Transmitter (ELT). Current generation ELTs were designed to provide position information in the event of a survivable aircraft accident. Next generation ELTs may be capable of being activated and transmitting information in flight when any of the conditions specified in EUROCAE ED-237 "Minimum Aviation System Performance Requirements (MASPS) for In-Flight Aircraft Distress Detection Criteria for Initiating Transmission of Flight

Information" occur. If the ELT is submerged in water, its signal may not be detectable.

5. Automatically Releaseable Flight Recorder (ADFR). The ADRF is designed to provide flight recorder data shortly after an accident, particularly in over-water accidents. The built-in ELT helps locate the accident site for investigation and search and rescue purposes. Being non-sinkable, it will help locate the accident site using the ELT signal if the wreckage submerges in water. It also eliminates the need for one ELT.

6. Underwater Locator (ULD). ULDs operating at 8.8 kHz are attached to the airframe to allow underwater locating of aircraft debris in the event that the ELT signal cannot be detected. ULDs operating at 37.5 kHz are attached to flight recorders and are used to locate flight recorders underwater.

3. Compliance with equipment requirements

7. With the development of technology, it has become possible to meet the requirements for equipment in various ways. Table H-1 below provides examples of compliance options. Using such advanced equipment, costs will be minimized and efficiency will be increased compared to equipment installed at present.

Table H-1. Examples of Ensuring Compliance

Present time	**After January 1, 2021**
In operation	**An application for a type certificate has been submitted to a Contracting State**
Two ELTs Two stationary recorders	Example: A position-determining system; and one ADFR with integral ELT; and one combination recorder; or a system that enables the determination of the position of one ELT and two fixed flight recorders and an additional means for the timely retrieval of flight recorder data

8. A position-determining system used in accordance with the provisions of Chapter 6 of these Regulations may replace one of the ELTs required under the provisions of Chapter 6 of these Regulations.

Appendix 9

Medical supplies

(Additional material to subparagraph a) of paragraph 212 of Chapter 6)

Types, quantity, placements and contents medical supplies

1. Types

1. The following types of medical supplies should be provided: first aid kit(s) on all aeroplanes, general precautionary kit(s) on all aeroplanes that require a cabin crew member, and a medical kit on an aeroplane certified to carry more than 100 passengers on segments of more than 2 hours duration. Where national regulations permit, operators may choose to carry recommended medical supplies in the first aid kit.

2. Based on the original information available, the presence of automated external defibrillators (AEDs) on board aircraft is likely to provide benefit to only a small number of passengers. However, these devices are installed on board many operators' aircraft because they provide the only effective treatment for cardiac fibrillation. Such devices are most likely to be useful when installed on aircraft carrying large numbers of passengers on long-haul flights. The presence of AEDs should be determined by operators based on an assessment of risk factors, including specific operational needs.

2. Number of first aid kits and universal preventive kits

§ 1. First aid kits

3. The number of first aid kits must correspond to the number of passengers permitted to be carried on the aircraft:

Passengers	*First aid kits*
0–100	*1*
101–200	*2*
201–300	*3*
301–400	*4*
401–500	*5*
More than 500	*6*

§ 2. Universal preventive kits

4. Aircraft performing routine operations that require at least one cabin crew member to operate must carry one or two universal preventive maintenance kits.

5. Additional kit(s) should be provided in cases of increased risk to public health, such as an outbreak of a serious infectious disease with pandemic potential.

6. Such kits may be used to clean up potentially infectious body contents such as blood, urine, vomit, faeces, and to protect cabin crew who are providing care in potentially infectious cases of suspected infectious disease.

3. Placements

7. First aid kits and universal preventive kits should be placed in the passenger cabin as evenly as possible. They should be located in places easily accessible to cabin crew members and sealed with an indication of the last and next check of the contents.

8. The medical kit, if transported, must be stored in an appropriate, secure place.

4. Contents

9. Below are recommendations for typical contents of first aid kits, universal prevention kits and medical supply kits.

10. First aid kit:

– list of contents;
– antiseptic tampons (pack of 10 pieces);
– adhesive bandages (strips of adhesive tape);
– gauze bandage measuring 7.5 cm × 4.5 m;
- kerchief bandage with safety pins;
– anti-burn bandage measuring 10 x 10 cm;
– sterile compression bandage measuring 7.5 x 12 cm;
– sterile gauze bandage measuring 10.4 x 10.4 cm;
– adhesive tape 2.5 cm wide (roll);
– adhesive sterile strips (or similar adhesive strips);
– hand sanitizer or disinfectant wipes;
- eye shield or tape;
– 10 cm scissors (if permitted by national regulations);
– surgical adhesive tape measuring 1.2 cm × 4.6 m;
– tweezers for removing fragments;
– disposable gloves (pair);
– thermometers (non-thermometers);
– resuscitation mask with a check valve for artificial respiration;
- First Aid Guide (current edition);
- incident registration form.

Where permitted by national authorities, the following medicines may be included in first aid kits:

– mild/moderate pain reliever;

- antiemetic;
- a remedy for nasal congestion;
- antacid (anti-acid) agent;
- antihistamine.

11. Universal preventive kit:

– a dry powder that turns a small amount of spilled liquid into a sterile granular gel;
– bactericidal disinfectant for cleaning surfaces;
– wipes for cleaning the skin;
– face/eye mask (separate or combined);
– gloves (disposable);
– protective apron;
- a large absorbent towel;
- a pick-up spoon with a scraper;
- biohazard waste bag;
- instructions.

12. Medical kit:

Equipment:

– list of contents;
- stethoscope;
– sphygmomanometer (preferably electronic);
– oropharyngeal breathing tubes (three sizes);
– syringes (of appropriate sizes);
– needles (of appropriate sizes);
– intravenous catheters (of appropriate sizes);
– antiseptic wipes;
– gloves (disposable);
– box for used needles;
– urinary catheter;
– intravenous infusion system;
- venous hemostatic tourniquet;
- gauze swab;
- adhesive tape;
- surgical mask;
– tracheal catheter (or large-diameter intravenous cannula) for emergency care;
– umbilical cord clamp;
– thermometers (non-thermometers);
– basic resuscitation activity maps;
– mask with valve;
- a pocket electric flashlight and batteries.

Medicines:

– adrenaline 1:1000;
- antihistamine (injectable);
– glucose 50% (or its equivalent) (injection: 50 ml);
– nitroglycerin (in tablets or aerosol packaging);
- basic painkillers;
- sedative anticonvulsants (injectable);
- antiemetic (injectable);
- injection bronchodilator;
- atropine (injectable);
- adrenocortical steroid (injectable);
- diuretic (injectable);
- a medicine to combat antipartum bleeding;
– sodium chloride 0.9% (minimum 250 ml);
– acetylsalicylic acid (aspirin for oral use);
- oral beta-blocker.

13. If a cardiac monitor (with or without AED) is available, include in this list:

– adrenaline 1:10,000 (or diluted adrenaline 1:1000).

Appendix 10

Brief description of the agreement provided for in Article 83 bis

Note: In accordance with paragraph 215 of Chapter 6, a certified copy of the summary of the agreement must be carried on board.

1. Purpose and scope of application

The summary of the agreement provided for in Article 83 bis must contain information in a standard format, a sample of which is given in paragraph 2.

2. Brief description of the agreement provided for in Article 83 bis

Brief description of the agreement provided for in Article 83 bis		
Agreement Title:		
State of registration:		Contact person:
State of the operator:		Contact person:
Signing date:	State of registration1:	
	By the State of the Operator1:	
Validity period:	Effective Date1:	Expiry Date (if applicable)2:
Languages of the agreement		
ICAO Registration Number:		
Framework Agreement (if any) with ICAO registration number:		

Chicago Convention	**ICAO Annexes Affected by the Transfer of Responsibility to the State of the Operator for Certain Functions and Duties**		
Article 12. Flight rules	Appendix 2, all chapters	Yes No	
Article 30 a). Radio equipmentaircraft	Permission for on-board radio station	Yes No	
Articles 30 b) and 32 a). Certificates for crew members	Chapters 1, 2, 3 and 6 of Annex 1; and Part I of Annex 6 "Flight Radio Operator"; or Part II of Annex 6 (Flight Crew Qualifications and/or Licences); or Section II of Part III of Annex 6 (Flight Crew Composition), (Flight Radio Operator); or Section III of Part III of Annex 6 (Qualifications)	Yes No	APCR 6: [indicate part and paragraph]3
Article 31.	Appendix 6	Yes	[Indicate part and

Airworthiness Certificates	Part I or Section II of Part III	No	chapters]3
	Appendix 6 Part II or Section III of Part III	Yes	[Indicate part and chapters]3
		No	
	Appendix 8 Chapters 3 and 4 of Part II	Yes	[Specify chapters]3
		No	

Aircraft affected by the transfer of responsibilities to the State of the Operator

Manufacturer, model, series VS	National and registration signs	Serial number	SE No. (commercial air transport)	Dates of transfer of duties WITH[1]	Before (if applicable)[2]

Notes.

1. dd/mm/yyyy.
2. dd/mm/yyyy or N/A if not applicable.
3. Square brackets indicate that information needs to be presented.

Appendix 11

Certification and verification of operator activities

1. Purpose and scope of application

§ 1. Introduction

1. This Annex provides guidance on actions prescribed by States in connection with air operator certification requirements, in particular the means of implementing and recording these actions.

§ 2. Necessary preliminary certification

2. The issuance of an Air Operator Certificate (AOC) is subject to the operator demonstrating to the Civil Aviation Authority that its organisational structure, training policies and programmes, flight operations, ground handling and maintenance systems are suitable having regard to the nature and volume of operations to be carried out. The certification process involves a State assessment of each operator and a determination of the operator's ability to carry out safe operations prior to the issuance of the initial AOC or the inclusion of any subsequent authorisations in the AOC.

§ 3. Standard Certification Practice

3. These Rules provide for the establishment of a certification system in the Kyrgyz Republic in order to ensure compliance with mandatory standards applicable to the type of flights to be performed and the minimum ICAO requirements.

2. Mandatory technical safety assessments

§ 1. Actions for special approval and acceptance

4. Certification and ongoing supervision of the operator's activities shall involve actions by the Civil Aviation Authority on the materials submitted for its consideration. These actions may be classified as special approval or acceptance, depending on the nature of the actions taken by the Civil Aviation Authority with respect to the material submitted for its consideration.A special approval is a documented approval in the operational specifications for commercial air transport operations.

5. Approval shall constitute an active response by the Civil Aviation Authority to the material submitted to it for its consideration. Approval shall involve the preparation of a report or determination of compliance with the relevant standards. Approval shall be confirmed by the signature of the approving official, the issuance of a document or certificate, or some other formal action taken by the Civil Aviation Authority.

6. Acceptance does not necessarily involve active response by the Civil Aviation Authority to the material submitted to it for consideration. A Civil Aviation Authority may agree that the material submitted to it for consideration meets the relevant standards unless the Civil Aviation Authority specifically rejects all or part of the material in question, usually after a specified period of time following submission.

7. The phrase "approved by the Civil Aviation Authority" or similar phrases using the word "approval" are used frequently in these Regulations. Even more frequently, these Regulations make use of provisions relating to review and subsequent approval or, at a minimum, "acceptance" by the Civil Aviation Authority. In addition to these specific phrases, these Regulations contain numerous references to requirements which, at a minimum, would require that at least a technical review be carried out by the Civil Aviation Authority.

8. The civil aviation authority should conduct or arrange for a technical safety assessment prior to issuing a special approval or acceptance. The assessment should:

a) be carried out by a person who has special qualifications to carry out such technical assessment;

b) be carried out in accordance with a documented standardized methodology;

c) where necessary to ensure safety, provide for a practical demonstration of the actual capabilities of the operator to perform specific types of activities.

§ 2. Demonstration of capabilities prior to the issuance of certain special approvals and statements

9. In accordance with paragraph 41 of these Rules, before issuing an air operator certificate, the State of the Operator shall require the operator to provide satisfactory evidence to enable the Civil Aviation Authority to evaluate the acceptability of the operator's organizational structure, methods of management and control of flight operations, ground handling and maintenance systems. This evidence shall be provided in addition to the analysis or inspection of manuals, documentation, facilities and equipment. Certain special approvals provided for in these Rules, such as a special approval for operations in low visibility conditions, have significant safety implications and should be demonstrated before the Civil Aviation Authority issues an approval for such operations.

10. Although the specific methodologies and extent of mandatory demonstrations and assessments vary among States, the certification processes of States whose operators have a good safety record are generally consistent. In these States, a technically qualified inspector assesses a representative sample of actual training, maintenance, and activities prior to issuing an AOC or adding additional approvals to the AOC.

§ 3. Registration of certification actions

11. Any action by the Civil Aviation Authority to grant certification, special approval or acceptance shall be properly documented. The Civil Aviation Authority

should issue a written document, such as a letter or other official document, which shall serve as formal confirmation that the action has been taken. These written documents shall be retained for as long as the operator continues to exercise the authority for which the special approval, approval or acceptance action was taken. These documents shall constitute unambiguous evidence of the authority granted to the operator and shall serve as evidence in the event that the Civil Aviation Authority and the operator disagree as to the activities which the operator is permitted to perform.

12. The CAA shall consolidate certification records, such as inspection, demonstration, special approvals, endorsements and acceptances, into a single file that shall be retained for as long as the operator is in operation or in files classified by the actions taken in connection with the certification, and shall review each file whenever special approvals, endorsements or acceptances are renewed. Regardless of the method used, these certification records shall constitute conclusive evidence that the CAA is fulfilling its obligations to ICAO with respect to certification.operators.

§ 4. Coordination of assessments flight operations and airworthiness

13. Some references to special approval or acceptance in Part I of APCR-6 will require a flight operations assessment and an airworthiness assessment. For example, special approvalsfor flights in low visibility conditionsdemandcoordinated preliminaryassessments by flight operations and airworthiness specialists. Flight operations specialists should assess operational procedures, training and qualifications of personnel. Airworthiness specialists should assess the reliability of aircraft and equipment, and maintenance procedures. These assessments may be performed separately, but should be coordinated to ensure that all aspects necessary to ensure flight safety are considered before any specific approval, endorsement or acceptance is granted.

§ 5. Responsibility of the State operator and state of registration

14. The responsibility for initial certification, issuance of the AOC and ongoing supervision of the operator's activities rests with the State of the Operator. In addition, Part I of the APC-6 requires the State of the Operator to review or take action in accordance with the various types of approvals and acceptances made by the State of Registry. According to these provisions, the State of the Operator must ensure that its actions are consistent with the approval and acceptance of the State

of Registry and that the operator complies with the requirements of the State of Registry.

15. It is important that the State of the Operator is satisfied with the arrangements under which its operator operates aircraft registered in another State, in particular with regard to maintenance and crew training. The State of the Operator should consider such arrangements in coordination with the State of Registry. Where appropriate, an agreement should be concluded to transfer control responsibilities from the State of Registry to the State of the Operator in accordance with Article 83 bis of the Convention on International Civil Aviation, in order to avoid any misunderstanding as to which State is responsible for specific control functions.

Note: Guidance material concerning the transfer of responsibility from the State of Registry to the State of the Operator under Article 83 bis is contained inManual on the implementation of Article 83 bis of the Convention on International Civil Aviation (Doc 10059).

3.Permissions

§ 1. Actions on special approval

16.The term "special approval" indicates that formal action has been taken by the Civil Aviation Authority which results in additional information being added to the operations specification.

The following provisions clearly indicate the need for special approval:

a) enhanced operational capabilities due to the presence of HUD, EVS, SVS, CVS, automatic landing system when flying in low visibility conditions;

b) flight operations in low visibility conditions;

c) production of flights with increased time for departure to an alternate airfield;

d) electronic flight tablets;

d) conducting PBN flights based on authorized required (AR) navigation specifications;

e) reduced vertical separation minima;

g) dangerous goods.

Appendix 5 to these Rules provides an example of a standard form of operational specification.

§ 2. Air Operator Certificate (AC)

17. The operator's certificate is a document of the established form.

The Air Operator Certificate and the accompanying operational specifications shall not be issued to two or more legal entities and shall not be transferable to another person.

The performance of commercial air transportation by a legal entity with an invalid/suspended/cancelled or otherwise expired air operator certificate and/or aircraft operational specifications of the air operator certificate is prohibited.

18. In addition to the elements specified in paragraph 3 of Appendix 5, the Performance Specifications may include other special statements such as:

a) special aerodrome flights (e.g. short take-offs and landings or landings with holding on the runway);

b) special approach procedures (e.g. steep approach, approach using precision runway control system and instrument landing system, approach using precision runway control system and directional guidance aids such as localizer, RNP approach, etc.);

c) passenger transportation at night on an aircraft with one engine or in instrument meteorological conditions;

d) flights in areas where special rules apply (e.g. flights in areas where different units of altitude measurement or altimeter setting rules are used).

§ 3. Actions for approval

19. The term "approval" indicates a more formal action by the State in relation to certification documentation than the term "acceptance". The head of the Civil Aviation Authority or his deputy shall issue a formal written document in respect of each action taken on "approval", including complex and significant approvals after specific analysis and assessment within the framework of the approval of the material by technical inspectors depending on their delegated authority and the agreement of the immediate supervisors of the technical inspectors of the Civil Aviation Authority.

§ 4. Provisions requiring approval

19. The approval of the Civil Aviation Authority is required for all certification actions listed below that are not preceded by one or more asterisks. The certification actions listed below that are preceded by one or more asterisks must be approved by the Civil Aviation Authority, or by the State of Registry if the Civil Aviation Authority is not the State of Registry (single asterisk or "*") or the State of Design (double asterisk or "**"). The Civil Aviation Authority shall take the necessary steps to ensure that operators for which it is responsible, in addition to the Civil Aviation Authority's own requirements, comply with any relevant approvals issued by the State of Registry and/or the State of Design. These provisions include:

Items requiring special approval are not included here. A list of these provisions is given in paragraph 10.

а) **Configuration Deviation List (CDL) (definitions);

б) **MMEL (definitions);

в) method for establishing minimum absolute flight altitudes (clause 61 of Chapter 4 of these Rules);

г) method for determining aerodrome operating minima (clause 64 of Chapter 4 of these Rules);

д) additional requirements for the performance of flights under instrument flight rules (IFR) or at night on aircraft operated by a single pilot (clause 171 of Chapter 4 of these Rules);

е) fatigue control (§40 of Chapter 4 of these Rules);

ж) document concerning the configuration, maintenance and procedures (CMP) for the operation of **EDTO aircraft with two gas turbine engines (§37 of Chapter 4 of these Regulations);

з) minimum equipment list of specific aircraft (MEL) (paragraph 204 of Chapter 6 of these Rules);

и) flight operations under performance-based navigation conditions (clause 333 of Chapter 7 of these Rules);

к) flight operations in airspace with MNPS (clause 336 of Chapter 7 of these Rules);

л) rules for the management of electronic navigation data (clause 349 of Chapter 7 of these Rules);

м) *technical maintenance programs for specific aircraft (clause 359 of Chapter 8 of these Rules);

н) *approved maintenance organization (APKR-8);

о) *methodology of quality assurance during technical maintenance (APKR-8);

п) training programs for flight crew members (clause 380 of Chapter 9 of these Rules);

р) provisions for training in the transportation of dangerous goods (clause 383 of Chapter 9 of these Rules);

с) additional safety margin for airfields (paragraph 2 of clause 396 of Chapter 9 of these Rules);

т) qualifications of the aircraft commander in terms of flight areas, routes and airfields (clause 398 of Chapter 9 of these Rules);

у) use of training devices to simulate flight conditions (paragraphs 481 and 401 of Chapter 9 of these Rules);

ф) method of control and supervision of flight operations (paragraph 42 of Chapter 4 and paragraph 407 of Chapter 10 of these Rules);

х) **mandatory maintenance work and its frequency (clause 416 of Chapter 11 of these Rules);

ц) training programs for members of the service crew (§4 of Chapter 12 of these Rules);

ч) training programs in the field of aviation security (§4 of Chapter 13 of these Rules).

§ 5. Provisions requiring technical assessment

20. The provisions of these Regulations require the Civil Aviation Authority to conduct a technical evaluation. These provisions contain phrases such as "acceptable to the Civil Aviation Authority", "sufficient for the Civil Aviation Authority", "determined by the Civil Aviation Authority", "considered acceptable by the Civil Aviation Authority" and "prescribed by the Civil Aviation Authority". Although these provisions do not necessarily require approval by the Civil Aviation Authority, these Regulations require the Civil Aviation Authority to at least ensure that the material under consideration is accepted after a specific review or evaluation. These provisions include:

a) detailed information on checklists for specific aircraft (definitions: aircraft flight manual and clause 206 of Chapter 6 of these rules);

b) detailed information on the systems of specific aircraft (paragraph 214 of Chapter 6 of these rules);

c) mandatory material for the flight operations manual (paragraph 53 of Chapter 4 and Appendix 2 of these Rules);

d) engine condition monitoring systems;

d) equipment for aircraft operated by a single pilot under instrument flight rules or at night (§32 chapters 6 of these Rules);

e) requirements for approval of flights in RVSM airspace (paragraph 338 of Chapter 7 of these Regulations);

g) monitoring the height-keeping characteristics of aeroplanes approved for operations in RVSM airspace (paragraph 339 of Chapter 7 of these Regulations);

c) procedures for distributing electronic navigation data and entering them into on-board equipment (clause 350 of Chapter 7 of these Rules);

i) *the operator’s responsibilities related to the maintenance of specific aircraft (clause 351 of Chapter 8 of these Rules);

k) *method of maintenance and certificate of admission to operation (clause 352 of Chapter 8 of these Rules);

l) *guidelines for regulating technical maintenance (clause 355 of Chapter 8 of these Rules);

m) *mandatory material for the maintenance regulation manual (clause 358 of Chapter 8 of these Rules);

n) *provision of information on maintenance experience (clause 365 of Chapter 8 of these Rules);

o) *taking necessary corrective actions related to technical maintenance (clause 366 of Chapter 8 of these Rules);

p) *requirements for modifications and repairs (clause 367 of Chapter 8 of these Rules);

p) *minimum qualification level of maintenance personnel (APKR -8);

c) requirements regarding navigators (paragraph 378 of Chapter 9 of these Rules);

t) teaching aids (clause 380 of Chapter 9 of these Rules);

y) qualifications of instructors (clause 380 of Chapter 9 of these Rules);

f) the need to conduct repeated training (clause 380 of Chapter 9 of these Rules);

x) the use of correspondence courses and written examinations (clause 383 of Chapter 9 of these Rules);

c) use of training devices to simulate flight conditions (clause 385 of Chapter 9 of these Rules);

w) taking into account the level of qualification of flight crew members (clause 397 of Chapter 9 of these Rules);

щ) the appointed representative of the Civil Aviation Authority (§11 Chapter 9 of these Rules);

y) requirements for experience, training and duration of breaks in work applicable to flights on single-pilot aircraft performed under instrument flight rules (IFR) or at night (paragraphs 403 and 404 of Chapter 9 of these Rules);

e) *making changes to the flight manual (§1 of Chapter 11 of these Rules);

y) the minimum number of service personnel for each type of aircraft (§11 chapter 12 of these Rules);

i) performance requirements for the altimetry system for flights in RVSM airspace (Appendix 3 of these Regulations).

4. Actions for adoption

§ 1. Acceptance

21. The actual scope of the technical assessment by the Civil Aviation Authority of the readiness of an operator to perform certain types of operations shall be broader than the activities specified in the Regulations providing for or implying approval. During certification, the Civil Aviation Authority shall ensure that the operator will ensure compliance with all requirements of these Regulations prior to the commencement of international commercial operations.

22. The concept of "acceptance" is used by the CAA as a formal method of ensuring that all critical aspects of an operator's certification have been reviewed by the CAA prior to the formal issuance of an AOC. By using such a concept, the CAA exercises its right to have the technical inspectors review the safety-related policies and procedures of all operators. The actual preparation of the document reflecting the acceptance (assuming that such a document is issued) may be entrusted to the technical inspector assigned to the certification.

§ 2. Compliance assurance report

23. The CAA uses Compliance Reports as a basis for documenting the acceptance decision they make with respect to a particular operator. This document, submitted by the operator, provides detailed information (with specific reference to the operations or maintenance manual) on how it will comply with all relevant State regulations. The Compliance Report is used extensively throughout the certification

process and is updated as necessary to reflect changes that the CAA requires to the operator's policies and procedures. The final Compliance Report is then included in the CAA's certification reporting documentation along with other certification documentation. The use of the Compliance Report is an excellent method of demonstrating that the operator is properly certified with respect to all relevant regulatory requirements.

§ 3. Flight Operations Manuals and maintenance

24. The operations and maintenance manuals and any subsequent amendments shall be submitted to the Civil Aviation Authority. The Civil Aviation Authority shall also determine the minimum content of these manuals. The relevant sections of the operator's manual to be assessed shall be identified in the technical guidance material of the Civil Aviation Authority, such as the operations policy manual, the flight operations manual, the cabin crew manual, the route handbook and the training manual. The Civil Aviation Authority shall issue a formal document indicating the acceptance of such manual and any subsequent amendments.

25. As part of the technical assessment carried out by the Civil Aviation Authority, in addition to considering all mandatory content items, consideration should be given to whether the implementation of the specific policies and procedures ensures the desired outcome. For example, the technical requirements for an operational flight plan should provide for the step-by-step implementation of the instructions necessary to ensure compliance with the requirements of Chapter 4, § 14 of these Regulations concerning the content and retention of these plans.

26. During the certification process, the Civil Aviation Authority technical inspector (assessor) may also request evidence of the use of good industry practice, in particular a sample of an actual completed operational flight plan used by the flight crew and controllers as a reference. This element of the technical assessment shall be carried out by inspectors experienced in the certification of air operators. The key consideration in assessing good industry practice as it relates to specific aircraft, specific equipment or limited applications is to use assessors who are suitably qualified in the field of practice to be assessed.

5. Other considerations concerning approval or acceptance

27. The Civil Aviation Authority shall provide for the approval or acceptance of certain critical documents, reports or procedures. The Civil Aviation Authority shall approve or accept them in accordance with the provisions of the Guidelines for the Issuance of an Air Transport Operator Certificate of the Kyrgyz Republic, approved by the Civil Aviation Authority. Some examples are given below:

a) flight data analysis program (paragraph 21 of Chapter 3 of these Rules);

b) the method of obtaining aeronautical information (paragraph 34 of Chapter 4 of these Rules);

c) acceptability of the fuel and oil metering system (§11 Chapter 4 of these Rules);

d) the acceptability of the system for recording flight time, duty flight time and rest time (§40 Chapter 4 of these Rules);

d) the acceptability of the aircraft maintenance log (paragraphs 2, 3, 4 of clause 87 of Chapter 4 of these Rules);

e) acceptability of the loading sheet (paragraphs 5, 6, 7 of clause 87 of Chapter 4 of these Rules);

g) acceptability of the operational flight plan (paragraph 8 of clause 87 of Chapter 4 of these Rules);

z) the method of obtaining meteorological data (paragraphs 99 and 100 of Chapter 4 of these Rules);

i) the method of ensuring compliance with the requirements for the placement of hand luggage (§38 Chapter 4 of these Rules);

k) operational limitations of the aircraft's flight performance characteristics (clause 187 of Chapter 5 of these Rules);

l) a method for obtaining and applying data on obstacles in the aerodrome area (§4 chapters 5 of these Rules);

m) acceptability of means of informing passengers (paragraph g) of clause 212 of Chapter 6 of these Rules);

n) the contents of the flight log (clause 418 of Chapter 11 of these Rules);

o) the content of the training program in the field of aviation security (§4 of Chapter 13 of these Rules).

6. Checking compliance with standards flight operations

28. According to paragraph 44 of these Rules, the validity period of the SA depends on the operator's compliance with the initial certification standards (paragraph 42 of these Rules) under the supervision of the Civil Aviation Authority. To implement such supervision, it is necessary to establish a system of continuous supervision that guarantees compliance with the mandatory flight performance standards (paragraph 48 of these Rules). An acceptable basis for the development of such a system is the introduction of a requirement for annual or semi-annual inspections, surveys and checks to assess the necessary actions for special approval, approval or acceptance within the framework of certification.

7. Change of operator certificates

29. Air operator certification is an ongoing process. Over time, only a few operators will be satisfied with the initial authorizations provided for in their AOCs. Expanding market opportunities will encourage operators to change aircraft models and seek approval for new routes requiring other additional capabilities. The CAA will require additional technical assessments before issuing formal written documents approving any changes to the initial AOC and other authorizations.

Where possible, each request should be reviewed on the basis of the original authorization to determine the extent of the governmental assessment to be undertaken before issuing a formal document.

Appendix 12

Minimum Equipment List (MEL)

(Additional material to paragraph 204 §1 of Chapter 6)

1. Where no departure from certification requirements is permitted, the aircraft may not be flown until all systems and equipment are functioning properly. Experience has shown that some malfunctions may be tolerated for a short period of time if the remaining systems and equipment are functioning properly and allow safe continuation of flight.

2. The civil aviation authority shall approve the minimum equipment list (MEL), those systems and components of equipment that may not operate under certain flight conditions, meaning that the flight cannot be performed if other systems and equipment other than those specified in the list fail.

3. Each aircraft shall have an approved minimum equipment list, based on the typical minimum equipment list (MMEL) and/or the Failure Limit List of the aircraft flight manual developed for the aircraft type by the organization responsible for the type design, in cooperation with the State of Design.

4. The civil aviation authority shall require the operator to compile a minimum list of equipment that will allow the aircraft to be operated in the event of failure of certain systems or equipment, provided that an acceptable level of safety is maintained.

5. The presence of a minimum equipment list does not mean that the aircraft may be operated for an indefinite period of time with inoperative systems or equipment. The primary purpose of a minimum equipment list is to permit the safe operation of an aircraft with inoperative systems or equipment within the framework of a controlled and justified program of repairs and equipment replacement.

6. Operators shall ensure that no flight is commenced with failure of multiple components of equipment specified in the minimum equipment list until it has been established that any interaction between the inoperative systems or components will not result in an unacceptable reduction in safety and/or an unreasonable increase in flight crew workload.

7. In determining whether an acceptable level of safety can be achieved, the likelihood of additional failures resulting from continued operation with systems or equipment inoperative shall also be taken into account. In establishing the minimum equipment list, no departure shall be made from the requirements provided in the section of the flight manual dealing with limitations, emergency procedures or other airworthiness requirements of the Civil Aviation Authority or of the State of Registry, where the Civil Aviation Authority is not the State of Registry, unless otherwise provided by the appropriate airworthiness authority or the flight manual.

8. Systems or equipment determined to be inoperative for a given flight shall, where appropriate, be provided with appropriate explanatory notices and all such items of equipment shall be listed in the aircraft maintenance log to inform the flight crew and maintenance personnel of the inoperative system or equipment.

9. For a particular system or piece of equipment accepted as inoperative, it may be necessary to establish a pre-flight maintenance procedure to disable or isolate that system or piece of equipment. It may also be necessary to develop appropriate flight crew procedures.

10. The duties of the aircraft commander when accepting an aircraft for a flight with deviations from the minimum list of equipment are specified in paragraph 87 of §14 of Chapter 4 of these Rules.

Appendix 13

Flight Safety Documentation System

(Additional material to §3 of Chapter 3)

1. Introduction

1. The following material provides guidance on the structure and development of an operator's safety documentation system. It should be noted that the development of a safety documentation system is an integrated process and changes to each document included in the system may affect the entire system.

2. In addition, guidelines for the development of operational documentation tend to cover only one aspect of document preparation, such as the definition of the format and layout of the document. Guidelines rarely cover the entire process of developing operational documentation. An important aspect is that operational documents must be consistent with each other and must comply with regulations, manufacturer requirements and human factors principles. It is also necessary to ensure that all sections are consistent and that they are applied consistently. Thus, emphasis is placed on an integrated approach based on considering operational documentation as a complete system.

3. The guidance provided in this Annex addresses the fundamental aspects of the process of developing an operator's flight safety documentation system in compliance with the provisions of§3 Chapter 3 of these Rules. These guidelines are based not only on theoretical research but also on current best industry practice with an emphasis on important operational aspects.

2. Structure

4. The flight safety documentation system shall be structured according to criteria that facilitate access to the information required for flight and ground operations contained in the various operational documents that make up the system and that facilitate the organization of the distribution and revision of operational documents.

5. The information contained in the flight safety documentation system shall be grouped according to its importance and use as follows:

(a) time-critical information, such as information that could jeopardize the safety of the operation if not provided immediately;

b) time-sensitive information, such as information that could adversely affect the safety level of a transaction or delay a transaction if not provided within a short period of time;

c) frequently used information;

(d) reference information, such as information that is required to perform the transaction but is not related to subparagraphs (b) or (c) above;

d) information that can be grouped based on the stage of the operation at which it is used.

6. Time-critical information should be placed at the beginning of documents and highlighted in the flight safety documentation system.

7. Time-critical information, time-sensitive information and frequently used information should be placed on cards and in operational reference books.

3. Testing

8. The flight safety documentation system should be tested under real conditions before implementation. The testing should cover critical aspects of the use of information in order to verify its effectiveness. The testing should also assess the interaction between all groups of information that may occur during the operation.

4. Compilation

9. The safety documentation system should provide for consistent use of terminology and standard terms for common elements and actions.

10. Operational documents should include a list of terms, abbreviations and their standard definitions, updated on a regular basis to ensure access to the most current terminology. All important terms, abbreviations and acronyms included in the flight documentation system should be defined.

11. The flight safety documentation system should ensure standardization of all types of documents, including the style of presentation, terminology, use of graphics and symbols, and the formats of all documents. This also includes uniform placement of specific types of information, consistent use of units of measurement and codes.

12. The flight safety documentation system shall include an index for quick locating of information included in several operational documents. The index shall be placed at the beginning of each document and shall include no more than three index levels. Pages containing information used in abnormal and emergency situations shall be provided with bookmarks for direct access.

13. The flight safety documentation system shall comply with the requirements of the operator's quality system, where applicable.

5. Implementation

14. Operators shall monitor the implementation of the safety documentation system to ensure that the documents are used properly in actual operating conditions in a manner that is important for operations and useful to operational personnel. Such monitoring shall include an appropriate feedback system for receiving suggestions from operational personnel.

6. Change

16. Operators shall develop a system for collecting, reviewing, distributing and controlling changes in information to process information and data from all sources relevant to the type of operations conducted, including, but not limited to, the State of the Operator, the State of Design, the State of Registry, manufacturers and suppliers of equipment. Manufacturers provide aircraft-specific information that directly relates to the use of aircraft systems and procedures in environments that may not fully reflect the requirements of operators. Operators shall ensure that such information is tailored to their specific needs and the needs of local authorities.

17. Operators shall develop a system for collecting, reviewing and distributing information in order to process information on changes introduced by the operator, including:

a) changes related to the installation of new equipment;

b) changes due to operating experience;

c) changes in the operator's methods and procedures;

d) changes in the operator's certificate;

d) changes to ensure standardization across the fleet.

Operators shall ensure that the principles, methods and procedures for crew coordination are specifically related to their work.

18. The flight safety documentation system should be reviewed:

a) on a regular basis (at least once a year);

b) after significant events (merger or acquisition of enterprises, a sharp increase or decrease in the volume of activities, etc.);

c) after technological changes (introduction of new equipment);

d) following changes in the rules concerning flight safety.

Operators shall annually inform the Civil Aviation Authority of the results of the review of flight safety documentation in accordance with this paragraph.

19. Operators should develop methods for communicating new information. Such specific methods should take into account the degree of urgency of the communication. Since frequent changes diminish the importance of new or modified procedures, it is desirable to minimize changes to the safety documentation system.

20. New information should be reviewed and tested taking into account its impact on the entire flight safety documentation system.

21. The method of transmitting new information should be supplemented by a system for tracking the latest information by operating personnel. Such tracking system should include a procedure for checking whether operating personnel have the most recent changes.

Appendix 14

Rescue and Fire Fighting Service (RFFS) Levels

Additional material to paragraph 38 §1 of Chapter 4

1. Purpose and scope of application

§ 1. Introduction

1. The purpose of this supplement is to provide guidance on assessing the level of protection provided by RFFS that is considered acceptable by aeroplane operators using aerodromes for various purposes. This guidance does not relieve an operator of the obligation to ensure that an acceptable level of protection is provided for the aeroplane intended to be used.

§ 2. Basic concepts

2. For flight planning purposes, an aeroplane operator should aim to use an aerodrome whose RFFS category, as required by APKR-14, meets or exceeds the RFFS category for the aeroplane in question. However, some aerodromes currently in use do not meet these requirements. In addition, APKR-14 specifies the level of RFFS at an aerodrome that must be provided for aeroplanes normally using that aerodrome, so this level of RFFS protection does not take into account aeroplanes for which the aerodrome is selected as an alternate aerodrome.

3. If there is a temporary reduction in RFFS capabilities at an aerodrome, then paragraph 93 §13 of Chapter 2 of APKR-14 contains a requirement that states: "Changes in the level of protection provided at an aerodrome in the area of rescue and fire fighting shall be reported by the aerodrome operator to the air traffic control unit and the aeronautical information service of the Kyrgyz Republic, with the aim of the above-mentioned units transmitting the necessary information to arriving and departing aircraft. When such a change in the specified level is eliminated, the above-mentioned units shall be informed accordingly."

4. In determining whether the level of protection provided by RFFS for an aerodrome is acceptable, the operator should take into account:

(a) in relation to the departure aerodrome or the destination aerodrome, the difference between the RFFS category for the aerodrome and the RFFS category for the aeroplane and the frequency of flights to that aerodrome;

b) in relation to an alternate aerodrome, the difference between the RFFS category of the aerodrome and the RFFS category of the aeroplane and the probability that the alternate aerodrome will be used.

5. The objective is for the operator to consider the RFFS provided as one element of the risk assessment process carried out within the framework of its safety management system, so that the highest overall level of flight safety can be guaranteed. The risk assessment will also take into account the following factors:

aerodrome services and facilities, their availability, terrain, weather conditions, etc., in order to ensure that the most suitable aerodrome is selected.

6. APKR 19 contains provisions on flight safety management for operators. Additional guidance is provided in the Instructions for certification and supervision of the activities of an air transport operator of the Kyrgyz Republic on the scope of the flight safety management system, approved by the Civil Aviation Authority.

7. The following guidance material is intended to assist operators in conducting the assessment required by paragraph 38 §1 of Chapter 4 of these Aviation Regulations of the Kyrgyz Republic "APR-6. Part I. Commercial Air Transport. Aircraft. Operation of Aircraft". This guidance material is not intended to limit or regulate the operation of an aerodrome.

2. Glossary of terms

Temporary decrease in level. An RFFS category, communicated including by NOTAM, that results from a reduction in the level of protection provided by the RFFS at an aerodrome.

RFFS category for an aerodrome. The RFFS category for a particular aerodrome as published in the relevant Aeronautical Information Publication (AIP).

RFFS category for aircraft. Category derived from that given in Table 9-1 of the APKR-14 for this aircraft type.

3. Acceptable RFFS category for aerodrome

§ 1. Planning

8. The published RFFS category for each aerodrome used for a given operation shall not be lower than the RFFS category for the specific aeroplane. If one or more aerodromes required to be included in the operational flight plan do not provide the required RFFS category for the aeroplane, the operator shall ensure that the specific aerodrome provides a level of RFFS category that is considered acceptable based on the risk assessment conducted within the operator's safety management system (SMS). In determining acceptable RFFS levels in such situations, the operator may use the criteria specified in Table F-1 and Table F-2. Notwithstanding these criteria, the operator may determine other acceptable RFFS category levels in accordance with paragraphs 13 through 18 of this Annex.

9. Intended flights to aerodromes with RFFS category below the levels specified in § 2 of Chapter 9APKR-14should be agreed between the aircraft operator and the aerodrome operator.

10. For departure aerodromes and destination aerodromes, during the planning stage, the acceptable levels of protection provided by the RFFS for the aerodrome should be equal to or greater than the values given in Table F-1.

Table F-1. Acceptable Aerodrome Category in relation to emergency rescue and fire fighting services (departure and destination airfields)

Airfields (specified in the operational flight plan) 1) *Where a particular aerodrome is used for more than one purpose, the highest required category appropriate to the particular purpose at the time of intended use shall apply.*	**Acceptable RFFS category for aerodrome** (taking into account the published RFFS category for the aerodrome, including any changes as per NOTAM)
Departure airfield and destination airfield	The RFFS category for each aerodrome must not be lower than the RFFS category for aircraft. When the operator has carried out a proper risk assessment one step below the RFFS category for aircraft or two notches below the RFFS category for aircraft in the case of a temporary reduction in level for a period of 72 hours or less, but not lower than category 4 RFFS for an aerodrome for aircraft with a maximum certificated take-off mass of more than 27,000 kg and not lower than category 1 for other aircraft

11. To comply with the operational rules applicable to a given flight, an operator shall select alternate aerodrome(s) for use for various purposes. During the planning stage, the acceptable level of RFFS protection provided for an aerodrome selected as an alternate may be equal to or greater than the values specified below in Table F-2.

12. For all-cargo operations, a further downgrade may be acceptable provided that the RFFS has the necessary capability to contain a fire around the flight deck long enough for occupants to escape the aircraft safely.

§ 2 Deviations

13. Notwithstanding the guidance contained in paragraph 8 of these Annexes, an RFFS category for an aerodrome below the protection levels specified in Tables F-1 and F-2 may be acceptable if other considerations prevail, such as weather conditions, runway characteristics or distance to an alternate aerodrome. Such a deviation should be based on a specific risk assessment conducted by the operator as part of its safety management system.

Table F-2. Acceptable Aerodrome Category for Rescue and Fire Fighting Services (Alternate Aerodromes)

Airfields (specified in the operational flight plan) Note: Where a particular aerodrome is used for more than one purpose, the highest required category appropriate to the particular purpose at the time of intended use applies.	**Acceptable level of protection provided by RFFS for an aerodrome**(taking into account the published RFFS category for the aerodrome, including any changes as per NOTAM)
Alternate airport at takeoff and alternate airport at destination	If the operator has performed an acceptable risk assessment: two steps below the RFFS category for aircraft, or three notches below the RFFS category for aeroplanes in the case of a temporary reduction in level for a period of 72 hours or less, but not below RFFS category 4 for an aerodrome for aeroplanes with a maximum certificated take-off mass of more than 27,000 kg and not below category 1 for other aeroplanes.
Alternate airfields on the route	•If the aerodrome operator is notified at least 30 minutes before the arrival of the aircraft, a minimum of Category 4 RFFS for the aerodrome for aeroplanes with a maximum certificated take-off mass of more than 27,000 kg and Category 1 RFFS for other aeroplanes; • if the aerodrome operator can be notified less than 30 minutes before the arrival of the aircraft: - two steps below the RFFS category for aircraft, or - three notches below the RFFS category for aircraft in the event of a temporary reduction in level for a period of 72 hours or less, but not lower than category 4 RFFS for an aerodrome for aircraft with a maximum certificated take-off mass of more than 2700 kg and not lower than category 1 for other aircraft.

14. Deviations from the RFFS category for an aerodrome may include, but are not limited to:

a) irregular flight; or

б) temporary reduction in the level of protection exceeding 72 hours.

15. Where appropriate, a deviation may be applied for a group of aerodromes selected for the same purpose for a given type of aeroplane.

16. The above deviations may be based on additional or different criteria relevant to the type of operation. The 72-hour threshold for temporary reduction in RFFS level may not be relevant for a single flight to or from the aerodrome under consideration, such as a non-scheduled flight, whereas it would be quite relevant for flights conducted on a continuous and daily basis. The deviation may be limited in time. The deviation may also be modified to take into account changes in the level of RFFS protection provided at the aerodrome(s) under consideration. In accordance with Chapter 4, paragraph 38 of these Regulations, deviations and their period of validity shall be included in the operations manual.

17. With respect to deviations from an acceptable RFFS at departure aerodromes and destination aerodromes, the specific safety risk assessment of an aeroplane operator for an aerodrome intended to be used as a departure aerodrome or destination aerodrome may be based on the following elements:

a) the frequency of flights planned by the aircraft operator taking into account the reduced level of protection provided by the RFFS;

б) coordination between the aircraft operator and the aerodrome operator (e.g. reducing deployment time by positioning existing RFFS facilities along the runway well in advance of the expected take-off or landing).

18. For scheduled operations, this coordination should take into account the principles of APCR-14 that apply to the aerodrome operator, as well as the possibilities for changing the category of RFFS provided at the aerodrome within a daily or seasonal cycle.

19. With respect to deviations from an acceptable RFFS for an alternate aerodrome, the aeroplane operator's specific safety risk assessment for the aerodrome selected as a take-off alternate, destination alternate or en-route alternate may be based on the following elements:

a) the probability of efficient use of the airfield in question;

б) frequency of selection of an aerodrome for the corresponding purpose of use.

§ 3. In flight

20. The RFFS category information for an aerodrome acceptable at the planning stage (including Tables F-1, F-2 and deviations where used as required in 13) contained in the operations manual under Chapter 4 of these Regulations is applicable for re-planning during the flight

21. In flight, the pilot-in-command may decide to land at any aerodrome, regardless of the RFFS category, if, after due consideration of all the prevailing circumstances, he concludes that this is less safe than re-routing the flight.

Appendix 15

Dangerous goods

(Supplement to Chapter 14 of these Rules)

1. Purpose and scope of application

1. This Annex contains guidance material relating to the carriage of dangerous goods as cargo. Chapter 14 of these Regulations includes requirements for the carriage of dangerous goods applicable to all operators.

2. The operator shall comply with the applicable provisions contained in the Technical Instructions regardless of whether:

A) the flight is wholly or partly within or wholly outside the territory of the State; or

b) there is a permit for the transportation of dangerous goods in accordance with the Aviation Regulations of the Kyrgyz Republic18 "Transportation of dangerous goods by air" (hereinafter referred to as APCR-18).

2. Terms

3. Where the following terms are used in this supplement, they have the following meanings:

Cargo handling agent. An agent performing on behalf of an operator some or all of the latter's functions, including the receipt, loading, unloading, transfer or other handling of passengers or cargo.

Outer packaging. Packaging used by a single shipper to contain one or more packages and form a single handling unit for ease of handling and storage.

Cargo aircraft. Any aircraft carrying goods or property but not passengers. In this context, the following persons are not considered passengers:

A) crew member;

b) An employee of the operator who is authorized and transported in accordance with the instructions contained in the Operating Manual;

V) An authorized representative of the authority; or

G) a person who has responsibility for a particular cargo on board.

Cargo container.A freight container is an item of transport equipment for radioactive materials intended to facilitate the transport of such materials, packaged or unpackaged, by one or more modes of transport.

Incident with dangerous goods. An incident involving the carriage of dangerous goods, not necessarily occurring on board an aircraft, that results in personal injury, property damage, fire, failure, spillage, leakage of liquid or radiation, or other evidence that the integrity of the package has not been maintained. Any occurrence involving the carriage of dangerous goods that creates a serious threat to the aircraft or its occupants is also considered a dangerous goods incident.

Acceptance checklist.A document used to assist in the inspection of the appearance of dangerous goods packages and associated documents to determine that all relevant requirements have been met.

Permission. Permission issued by an authority to transport dangerous goods;

Dangerous goods. Articles or substances which are capable of creating a hazard to health, safety, property or the environment and which are listed as dangerous goods in the Technical Instructions or are classified in accordance with these Instructions.

Incidents involving dangerous goods. An incident involving the transport of dangerous goods that results in death or serious injury to a person or significant material damage.

Transport document for dangerous goods.A document provided for in the Technical Instructions. It is completed by the person offering dangerous goods for air transport and contains information about these dangerous goods.

Technical instructions. The current edition of the Technical Instructions for the Safe Transport of Dangerous Goods by Air, including the Supplement and any Appendix approved and published by decision of the Council of the International Civil Aviation Organization.

Liberation. For the purposes of compliance with this subsection only, a permit referred to in the Technical Instructions and issued by all concerned authorities granting an exemption from the requirements of the Technical Instructions.

Packaging kit. The complete product of a packaging operation, consisting of the package and its contents prepared for transport.

Package. The container and any other components or materials necessary to enable the container to perform its containing functions.

Serious injury. An injury sustained by a person as a result of an accident that:

A) Requires hospitalization for more than 48 hours, beginning seven days after the injury; or

b) Causes a fracture of any bone (except simple fractures of the fingers, toes, or nose); or

V) Involves lacerations that cause severe bleeding, damage to nerves, muscles, or tendons; or

G) Damage to any internal organ; or

d) Second- or third-degree burns, or any burns affecting more than 5% of the body surface; or

e) Involves proven exposure to infectious substances or harmful radiation.

Cargo packaging equipment. Any type of air container, or air pallet with netting over it.

3. Permission for the transportation of dangerous goods

4. The operator shall not transport dangerous goods unless he has been granted permission to do so by the Civil Aviation Authority.

5. Before issuing a permit to transport dangerous goods, the operator must ensure that adequate training has been carried out, that all relevant documents (e.g.

ground handling, aircraft maintenance, training) contain information and instructions on dangerous goods, and that procedures are in place to ensure the safe handling of dangerous goods at all stages of transport.

6. Applicability.

Articles and substances which may be classified as dangerous goods but which are not covered by the Technical Instructions in accordance with Parts 1 and 8 of these Instructions are excluded from the provisions of this subsection provided that:

A) if they are placed on board with the permission of the operator to provide medical assistance to a patient during the flight, they:

1) are carried for use in flight; are part of the permanent equipment of an aircraft intended for specialized medical use; or are carried during a flight performed by the same aircraft for the delivery of a patient or after his/her transportation; and

2) when carried on board with the approval of the operator for the purpose of providing in-flight medical care to a patient, the following dangerous goods shall be limited and shall be stored in the position in which they are used or securely stored when not in use and properly secured during take-off and landing and at all other times when the pilot-in-command considers it necessary in the interests of safety:

(i) Gas cylinders which must be specially manufactured for the containment and transport of that particular gas;

(ii) Psychotropic substances and other medical items which must be under the control of trained personnel at all times when they are used on board the aircraft;

(iii) equipment containing batteries with wet cells which must be stored and, where necessary, secured in an upright position to prevent leakage of electrolyte.

b) They must be carried on board the aircraft for operational reasons, although items and substances intended for replacement or removed for replacement must be carried on the aircraft as specified in the Technical Instructions.

V) They are in the luggage:

1) carried by passengers or crew members in accordance with the Technical Instructions; or

2) which has been separated from its owner during carriage (e.g. lost baggage or incorrectly checked baggage), but which is carried by the operator.

4. Dangerous goods on board the aircraft in accordance with relevant regulations or for operational reasons

7. Dangerous goods which must be carried on board an aircraft in accordance with the relevant regulations of the Civil Aviation Authority or for operational reasons are goods which are necessary for:

a) airworthiness of the aircraft;

b) the safe operation of the aircraft; or

c) the health of passengers or crew.

8. Such dangerous goods include, but are not limited to:

a) Batteries;

b) fire extinguishers;

c) First aid kits;
d) insecticides/air fresheners;
d) Life-saving devices; and
e) portable oxygen devices.

5. Dangerous goods carried by passengers and crew members

9. The Technical Instructions exempt certain dangerous goods from the requirements normally applicable to them when carried by passengers or crew, provided that certain conditions of carriage are met, these requirements are repeated below.

10. Dangerous goods that may be carried by any passenger or crew member include:

а) alcoholic beverages containing more than 24% but not more than 70% alcohol by volume, no more than 5 liters per person;

б) Non-radioactive medical or toilet articles (including aerosols, hair sprays, perfumes, medicines containing alcohol); and, in checked baggage only, aerosols that are non-flammable, non-toxic and present no subsidiary risk if intended for sporting or domestic use;

в) safety matches or a lighter for personal use and when carrying on your person;

г) small cylinders of gas of division 2.2 used for the operation of mechanical limbs, and spare cylinders of similar size if necessary to ensure an adequate supply for the duration of the journey;

д) cardiac pacemakers or other radioactive isotope devices, including lithium battery-powered devices, implanted in the human body or installed externally;

е) a small medical or clinical thermometer containing mercury for personal use, if it is in a protective case;

ж) dry ice used for preserving perishable items, provided that the quantity of dry ice does not exceed 2 kg and the packaging allows the gas to escape;

з) if permitted by the operator, small cylinders of gaseous oxygen or air for medical use;

и) if carriage is permitted by the operator, not more than two small cylinders or other suitable gas of division 2.2 fitted into a self-inflating lifejacket and not more than two spare cylinders;

к) If permitted by the operator, wheelchairs or other battery-powered mobility aids with non-spillable batteries, provided that the equipment is carried as checked baggage. The battery must be securely attached to the equipment, disconnected, and the terminals insulated to prevent accidental short circuiting;

л) If permitted for carriage by the operator, battery-powered wheelchairs or other mobility devices with spillable batteries, provided the equipment is carried as checked baggage. If the equipment can be loaded, stowed, secured and unloaded at all times in an upright position, the battery must be securely attached to the equipment, disconnected and the terminals insulated to prevent accidental short circuiting. If the equipment cannot be kept upright, the battery must be removed and

carried in a strong, rigid package that is leak-proof and does not allow the fluid from the battery to leak. The battery in the package must be protected from accidental short circuiting, held upright and surrounded by absorbent material sufficient to absorb the entire volume of fluid. The package must be protected from falling by securing it in the cargo hold of the aircraft. The pilot-in-command must be informed of the location of the wheelchair or mobility device with the battery installed or the packaged battery;

м)If carriage is permitted by the operator, cartridges for weapons (UN0012 and UN0014 only) of Division 1.4S, provided that they are for the operator's own use, are securely packed and in quantities not exceeding 5 kg gross and are carried as checked baggage. Cartridges containing explosive or incendiary projectiles are not permitted. Permits for more than one person may not be combined in one or more packages;

н) when carriage is permitted by the operator, a mercury barometer or mercury thermometer in carry-on baggage (cabin baggage) if it is in the possession of a representative of the government meteorological office or similar official agency. The pilot-in-command must be informed of the need to carry such a barometer or thermometer;

о) Spare batteries, including lithium batteries, non-spillable batteries, nickel-metal hydride batteries and dry batteries for portable electronic devices permitted in carry-on baggage only. Items called power banks are considered as spare batteries. These batteries must be separately protected so that they cannot short-circuit. Lithium metal batteries: the lithium metal content must not exceed 2 g. Lithium-ion batteries: the specific watt-hour rating must not exceed 100 Wh.

11. Restrictions on the transportation of dangerous goods

A) The operator shall ensure that articles and substances (or other goods declared as dangerous goods) which are specifically identified by name or generally described in the Technical Instructions as prohibited for carriage under any circumstancesah, they were not transported on board an aircraft;

b) The operator shall not carry articles and substances or other cargo declared as dangerous goods, which are defined in the Technical Instructions as prohibited for carriage under normal circumstances, unless the following requirements of these Instructions are met:

1) the necessary exemptions have been granted by all States concerned in accordance with the requirements of the Technical Instructions; or

2) approval has been granted by all States concerned in cases where the Technical Instructions indicate that only such approval is required.

6. States Relevant to Exceptions

12. The Technical Instructions provide that, in certain circumstances, dangerous goods which are normally prohibited from carriage may be carried. These circumstances include cases of extreme urgency or where other modes of transport are not suitable or where full compliance with the prescribed requirements would be contrary to the public interest. In these circumstances, all States concerned may

make exceptions to the provisions of the Technical Instructions, provided that every effort is made to achieve an overall level of safety equivalent to that provided for in the Technical Instructions.

7. Information in case of an emergency during flight

13. To assist ground services in preparing for the landing of an aircraft in an emergency, it is essential that the operator provides the appropriate air traffic services unit with adequate and accurate information on any dangerous goods carried on board as cargo. Where possible, this information should include the proper shipping name and/or UN/ID number, class/division and, for class 1, the compatibility group, any identified additional risks, quantity and location on board the aircraft.

14. If it is not possible to include all the information, the UN/ID numbers or classes/divisions and quantity or a brief description of the quantity and class/division in each cargo compartment should be provided. Alternatively, a telephone number may be provided to obtain a copy of the written information for the pilot-in-command during the flight.

15. It is possible that due to the nature of the in-flight emergency the situation may not allow the pilot-in-command to advise the appropriate air traffic services unit of dangerous goods being carried as cargo on board the aircraft.

8. Civil Aviation Authority

16. In compliance with the requirements of APKR-18 and these Rules, the Civil Aviation Authority shall indicate in the operational specifications of the aircraft to the operator's certificate the issuance of a special approval for the carriage of dangerous goods as cargo. The specifications shall include any restrictions.

17. Special approval may be granted for the carriage of only specific types of dangerous goods (e.g. dry ice, Category B biological substances and dangerous goods in excepted quantities) or COMAT.

18. The Supplement to the Technical Instructions provides guidance material on the responsibilities of States towards operators. It includes additional information to Part 7 of the Technical Instructions on storage and loading, provision of information, inspection, enforcement and information from these Regulations relating to responsibilities in respect of dangerous goods.

19. The carriage of dangerous goods other than as cargo (e.g. medical flights, search and rescue operations) is covered in Chapter 1 of Part 1 of the Technical Instructions. Exceptions relating to the carriage of dangerous goods that are equipment or intended for use on board an aircraft during flight are specified in paragraph 2.2.1 of Part 1 of the Technical Instructions.

9. Operator

20. The operator, regardless of whether it has a Dangerous Goods Permit,

shall develop and update initial and recurrent dangerous goods training programs in accordance with the requirements of the Civil Aviation Authority.

21. Dangerous Goods training programs are provided for all operators, regardless of whether they have a Dangerous Goods Permit.

22. Dangerous goods training programs provided for organizations established in the Kyrgyz Republic and not being Operators (i.e. organizations that receive, load, unload dangerous goods, process passengers, screen passengers, crew members and their baggage) should also be approved in the manner determined by the Civil Aviation Authority.

23. Security personnel must undergo training regardless of whether the operator, which is required to carry passengers or cargo, carries dangerous goods as air cargo.

24. After completing the training, a test and assessment of the effectiveness of the training must be conducted to check the understanding of the material covered. Confirmation of successful completion of the test and assessment of the effectiveness of the training is required.

25. Information about the preparation must be kept up to date and include:

а) employee's last name;

б) month of completion of the final training and assessment course;

в) a description of the training materials used to conduct the training, a copy of them or a link to them;

г) name and address of the organization conducting the training of personnel,

д) proof of successful completion of the test and assessment of the effectiveness of the preparation.

26. Records of personnel training and assessment shall be maintained for a minimum of 36 months from the month in which the last training was completed and shall be made available upon request to the Civil Aviation Authority.

Appendix 16

Regulations on the standards of working hours and rest time of crew members of civil aviation aircraft of the Kyrgyz Republic

I.General Provisions

1. This Regulation establishes the specifics of the working hours and rest time regime for aircraft crew members who have valid certificates (attestations) granting the right to perform work on board an aircraft as part of the crew, including cadets of flight training institutions and trainees (hereinafter referred to as crew members).

2. The provisions of this Regulation are mandatory when developing the Flight Operations Manual for operators (hereinafter referred to as the FOM) and when drawing up work schedules for crew members and flight schedules for operators' aircraft.

The operator develops regulations governing the work and rest regimes of crew members.and in accordance with the norms of this Regulation, and includes in the RPP provisions on the work and rest regimes of crew members, taking into account the opinion of the elected body of the trade union organization or other representative bodies for the protection of the rights and interests of members of the flight and cabin crew.

3. A flight crew member shall refuse further performance of work duties when he/she is so fatigued that it may adversely affect the safety of the flight, in the manner established in the ROP.

§1.Definitions

4. For the purposes of this Regulation, the following definitions apply:

Acclimatized– a condition in which the circadian biorhythm of a crew member is synchronized with the time zone in which the crew member is located. A crew member is considered acclimatized to a time zone within 2 hours of the local time at the departure point. If the time difference between the local time at the place where the duty assignment begins and the local time at the place where the next duty assignment begins is more than 2 hours, the crew member is considered acclimatized in accordance with the values specified in Table 1 for calculating the maximum daily flight period.

Table 1

The hourly difference (h) between the reference time and the local time at the place where he starts his next duty task	Time elapsed since arrival to the reference time				
	< 48	48 – 71:59	72– 95:59	96– 119:59	≥ 120
< 4	B	D	D	D	D
≤ 6	B	X	D	D	D
≤ 9	B	X	X	D	D
≤ 12	B	X	X	X	D

"B" means acclimatized to the local time of the departure time zone;

"D" means the locally acclimatized location at which the crew member will begin his or her next duty assignment; and

"X" indicates that the crew member is in an unknown state of acclimatization;

Control time– means the local time at the point where the crew member is located, located in a time zone with a time difference of no more than 2 hours from the time to which the crew member is acclimatized;

Accommodation -means, for the purposes of watch and split watch, a quiet and comfortable place, not open to the public, with adjustable lighting and temperature, furnished with sufficient furniture to enable a crew member to sleep, with sufficient capacity to accommodate all crew members present at the same time and with access to food and drink;

Adequate placement- in the sense of a reserve period, split duty and rest time, individual accommodation for each crew member, located in a quiet environment, equipped with a bed, adequate ventilation, with means of regulating temperature and lighting intensity, and with access to food and liquids;

Increased flight crew- a flight crew consisting of more members than the minimum number necessary for the operation of the aircraft, which allows each member of the flight crew to leave his assigned position and be replaced by another suitably qualified member of the flight crew for the purpose of taking a rest period during the flight;

Break– a period during flight duty, less than the rest period, which is considered a duty assignment and during which a crew member is relieved of all tasks;

Delayed appearance time– deferral by the operator of a scheduled flight duty period (FDP) until the crew member leaves the rest area;

Irregular schedule– a crew member's work schedule that disrupts his or her sleep patterns during optimal sleep times by incorporating an FDP or combination of FDPs that is superimposed, commences or ends at any time during the day or night in the location where the crew member is acclimatized; the work schedule may be irregular if it begins early, ends late or occurs at night:

(a) irregular schedule of the "morning type":

(i) if "early starts" - a duty period that begins between 05:00 and 05:59 hours, in the time zone to which the crew member is acclimatized; and

(ii) if "ends late" - a duty period that begins between 23:00 and 01:59 hours, in the time zone to which the crew member is acclimatized;

(b) irregular schedule of the "extended type":

(i) if "early starts" - a duty period that begins between 05:00 and 06:59 hours, in the time zone to which the crew member is acclimatized; and

(ii) "ends late" - a period of duty that begins between 00:00 and 01:59 hours, in the time zone to which the crew member is acclimatized.

Night duty– a period of duty that extends beyond any period between 02:00 and 04:59 hours, in the time zone to which the crew member is acclimatized.

Duty– any task performed by a crew member for an operator, including flight duty, administrative work, training and inspection, positioning, and standby duty elements.

Service flight time– the period of time that begins when the operator requests a crew member to report for duty, which includes a segment or series of segments, and ends when the aircraft stops moving and the engines are turned off, at the end of the last segment for which he or she is on duty.

Flight time– for aircraft, the period of time from the moment the aircraft begins to move from its parking place for the purpose of take-off until the moment it stops at the designated parking place, with all engines and propellers turned off.

Base– a location assigned by the operator to a crew member where the crew member normally commences and completes his or her duty period or series of duty periods and where the operator is not normally responsible for providing accommodation for members of that crew.

Local time– A 24-hour period of time that begins at 00:00 local time.

Local night– 8-hour period from 22:00 to 08:00 local time.

Duty Crew Member– a crew member performing his duties on an aircraft during one section.

Positioning –the movement of an off-duty crew member on behalf of the operator from one location to another, with the exception of:

– travel time from a personal place of rest to the designated place of meeting and back;

– time of local transfer from the place of rest to the start of duty and back.

On-board recreation area –a berth or seat with leg and foot support suitable for sleeping on board an aircraft. Suitable seating furniture shall include a chair with an angle of not less than 45° from the vertical, a width of not less than 50 cm and with leg and foot support.

Reserve– the period of time during which a crew member must be available for assignment to FDP, positioning, or other tasks, with at least 10 hours' notice.

Rest period– a continuous and defined period of time, after and/or before the duty period, during which a crew member is relieved from any duty and reserve task.

Rotation– a duty period or series of duty periods that includes at least one period of flight duty and off-base rest periods that begins at base and ends upon return to base for a rest period when the operator is no longer responsible for the accommodation of the crew member.

One day off– time free from all duties and on-duty duties during one day and two local nights, notified in advance. A rest period may be included in such a day.

Sector– the FDP segment from the first movement of an aircraft for the purpose of take-off until its movement stops after landing at the designated parking area.

Expectation– a predetermined period of time during which a crew member must be available for assignment to a flight, positioning, or other duty without intervening rest.

Waiting at the airport –waiting that takes place directly at the airport.

Another Expectation- waiting that takes place at home or in a suitable place of accommodation.

Window of Circadian Activity (WOCL)– the period of time from 02:00 to 05:59 hours, in the time zone to which the crew member is acclimatized.

§2.Operator's responsibilities

5. Operator:

а) publishes work schedules sufficiently in advance to enable crew members to plan their appropriate rest;

б) ensures that flight duty periods (FDPs) are scheduled in such a way as to enable crew members to remain sufficiently rested to enable them to perform at a satisfactory level of safety under all circumstances;

в) specifies the hours of report for duty, allowing sufficient time for ground tasks;

г) takes into account the relationship between the frequency and pattern of periods of flight duty and rest periods, as well as the cumulative effects of long periods of duty combined with minimal rest periods;

д) provides work schedule models that should eliminate practices that cause serious disruption to established sleep/duty patterns, such as daytime/nighttime duty rotations;

е) provides sufficiently long rest periods to allow crew members to recover from previous duty assignments and be rested at the start of the next flight duty period;

ж) plans recurring extended periods of recovery and rest, and notifies crew members sufficiently in advance;

з) plans flight tasks so that they are completed within the permissible flight duty period, taking into account the time required for pre-flight tasks, the segment and the time of the intermediate landing;

и) changes the schedule and/or crew composition if the actual transportation exceeds the maximum flight duty period in the case of more than 33% of the flight tasks in this schedule during the planned seasonal period.

§3.Flight Time Determination Schemes

6. Operators shall develop, implement and maintain flight time determination schemes that correspond to the type of operations performed and the

requirements of the Aviation Regulations of the Kyrgyz Republic, this Regulation and other applicable requirements.

7. Before being applied, the flight time determination scheme, including any associated Fatigue Management System (FRM), if required, shall be subject to approval by the Civil Aviation Authority.

8. To demonstrate compliance with the Aviation Regulations of the Kyrgyz Republic and this Regulation, an operator must apply the relevant certification specifications approved by the Civil Aviation Authority. Alternatively, if an operator intends to deviate from these requirements, it must provide the Civil Aviation Authority with a full description of the proposed deviation prior to its implementation. This description must include any changes to manuals or procedures, as well as an assessment confirming that the requirements of this Regulation have been met.

9. Within two years of the implementation of a deviation or exception, the operator shall collect data on the deviation or exception authorized and shall analyze the data using scientific principles to assess the effects of the deviation or exception on the fatigue of flight personnel. Such analysis shall be submitted in the form of a report addressed to the Civil Aviation Authority.

II. Base airfield

10. The operator shall designate a base aerodrome for each crew member.

III. Flight Duty Period (FDP)

11. The operator must:

a) determine individual reporting deadlines;

b) establish procedures to determine how the pilot-in-command (PIC), in the event of exceptional circumstances that may result in severe fatigue, should, in agreement with the crew, reduce the actual flight duty and/or extend the rest period in order to eliminate any adverse effect on flight safety.

12. Maximum daily core FDP. The maximum daily core FDP without extension for acclimatized crew members is established in accordance with Table 2:

Table 2

Maximum Basic Daily FDP -Acclimatized crew members

Start of operational flight time	1-2 sectors	3 sectors	4 sectors	5 sectors	6 sectors	7 sectors	8 sectors	9 sectors	10 sectors
0600-1329	13:00	12:30	12:00	11:30	11:00	10:30	10:00	9:30	9:00
1330-1359	12:45	12:15	11:45	11:15	10:45	10:15	9:45	9:15	9:00
1400-1429	12:30	12:00	11:30	11:00	10:30	10:00	9:30	9:00	9:00
1430-1459	12:15	11:45	11:15	10:45	10:15	9:45	9:15	9:00	9:00
1500-1529	12:00	11:30	11:00	10:30	10:00	9:30	9:00	9:00	9:00
1530-1559	11:45	11:15	10:45	10:15	9:45	9:15	9:00	9:00	9:00

1600-1629	11:30	11:00	10:30	10:00	9:30	9:00	9:00	9:00	9:00
1630-1659	11:15	10:45	10:15	9:45	9:15	9:00	9:00	9:00	9:00
1700-0459	11:00	10:30	10:00	9:30	9:00	9:00	9:00	9:00	9:00
0500-0514	12:00	11:30	11:00	10:30	10:00	9:30	9:00	9:00	9:00
0515-0529	12:15	11:45	11:15	10:45	10:15	9:45	9:15	9:00	9:00
0530-0544	12:30	12:00	11:30	11:00	10:30	10:00	9:30	9:00	9:00
0545-0559	12:45	12:15	11:45	11:15	10:45	10:15	9:45	9:15	9:00

13. The maximum daily FDP when crew members are not acclimatized should be in accordance with the following Table 3:

Table 3

The crew members are not acclimatized

Maximum daily FDP by sector						
1-2	3	4	5	6	7	8
11:00	10:30	10:00	9:30	9:00	9:00	9:00

14. The maximum daily FDP when crew members are not acclimatized and the Operator has implemented FRM shall be in accordance with the following Table 4:

Table 4

Crew members are not acclimatized within the FRM

Maximum daily FDP by sector						
1-2	3	4	5	6	7	8
12:00	11:30	11:00	10:30	10:00	9:30	9:00

15. The values in Table 4 may be applied provided that the operator's FRMS is continuously monitored and that the required safety performance is maintained by the air transport operator.

16. FDP with different reporting times for flight crew and cabin crew. Whenever the cabin crew requires more time than the flight crew for the pre-flight briefing for a sector or series of sectors, the cabin crew FDP may be increased by the difference in reporting time between the cabin crew and the flight crew. The difference shall not exceed 1 hour. The maximum daily FDP for the cabin crew shall be based on the flight crew FDP, but it shall commence within the cabin crew reporting time.

17. Maximum daily FDP for acclimatized crew members using increased duty time without in-flight rest. The maximum daily FDP may be increased to 1 hour not more than twice in any seven consecutive days. In such case:

a) the minimum pre-flight and post-flight rest periods must be increased by 2 hours; or

b) the post-flight rest period should be increased by 4 hours.

18. When increased duty hours are used for consecutive FDPs, the additional pre-flight and post-flight rest between the two increased FDPs required under paragraph 17 shall be provided consecutively.

19. The use of extended working hours must be planned in advance and must be limited to a maximum of:

a) 5 sectors when extended working hours do not fall within the WOCL (window of circadian low – period of slowing of the circadian biological rhythm); or

b) 4 sectors where the extended working hours fall within the WOCL period by 2 hours or less; or

c) 2 sectors, when extended working hours fall within the WOCL period by more than 2 hours.

20. An increase in the maximum basic daily FDP without in-flight rest shall not be combined with an increase in duty time due to in-flight rest or a break in duty time during the performance of a flight.

21. Flight time determination schemes shall specify limits for increasing the maximum basic daily FDP in accordance with certification specifications applicable to the types of operations, taking into account:

a) the number of sectors; and

b) falling into the WOCL period.

22. Maximum daily FDP increase with in-flight rest. When determining flight time, conditions shall be specified for increasing the maximum basic daily FDP with in-flight rest in accordance with the certification specifications applicable to the types of operations, taking into account:

a) number of sectors;

b) minimum rest time in flight for each crew member;

c) arrangement of rest during the flight; and

d) reinforced flight crew.

23. Unforeseen circumstances during flight operations — discretion of the commander. Conditions for changing the flight mission duration, duty and rest time limits at the commander's discretion in the event of unforeseen circumstances during flight operations that arise after the reporting time or at the reporting time must meet the following requirements:

a) the maximum daily duration of a flight mission may be increased by no more than 2 hours if the crew composition is reinforced, while the maximum duration of flight duty may be increased by no more than 3 hours;

b) if the permissible increase in the last sector of the flight mission is exceeded due to unforeseen circumstances after take-off, the flight may be continued to the planned destination or alternate aerodrome;

c) the rest period after a flight mission may be shortened, but may not be less than 10 hours.

24. In the event of unforeseen circumstances that may result in severe fatigue, the PIC must reduce the flight duty time and/or increase the rest period to eliminate the consequences affecting flight safety.

25. The PIC must consult with all crew members before making a decision to increase the FDP.

26. The PIC must submit a report to the operator on the increase of FDP or reduction of rest time at his discretion.

27. If the increase in FDP or reduction in rest period exceeds 1 hour, a copy of the report, to which the operator must add his comments, must be sent to the Civil Aviation Authority no later than 28 days after the event.

28. The operator shall implement a non-punitive approach to the PIC's decision to increase FDP or reduce rest time, and shall describe it in the ROP.

29. In-flight contingencies – flight delays. The operator must establish procedures in the OP for handling flight delays in cases of contingencies, in accordance with the applicable operational specifications for the types of flights.

IV. Time of appearance

30. The operator shall indicate the start and end times of flight duty time taking into account the type of flights, type and size of aircraft and airport conditions for reporting purposes.

31. Exceeding the working hours standard is an event subject to investigation.

V.FDP Control Time

32. The FDP start time specified in Tables 2, 3 and 4 is referred to as "control time". If the local time of the departure point is within two time zones of the local time, the crew member is considered acclimatized. When the operator provides motor transport to the crew member for delivery to the airport, the flight duty time begins from the time of arrival at the airport.

VI.Unforeseen circumstances in flight - decision of the PIC

33. In order to distribute responsibility between the company management, flight and cabin crew in case of unforeseen circumstances, the operator develops procedures for decision-making by aircraft commanders as general instructions, which are fixed in the RPP.

34. Examples of competent decisions made by the PIC are regularly reviewed, but decisions made at base airports with backup crews are not taken into account.

35. The operator's policy on PIC decisions should include safety objectives, particularly when increasing FDP or reducing rest, and take into account additional factors that may reduce crew member performance, such as:

a) falling into the WOCL period;

b) weather conditions;

c) difficulties in performing the flight and/or the location of the airport;

d) malfunctions or technical characteristics of the aircraft;

d) training flights or test flights;

e) increase in the number of sectors;

g) performing flights at different times of the day; and

c) individual conditions for crew members (wake-up time, sleep factors, workload, etc.).

VII.The decision of the KVS

36. The maximum basic daily FDP determined taking into account the provisions of paragraph 6 shall be used to calculate the margin of discretion of the PIC if it applies to an FDP that has already been extended in accordance with the provision of paragraph 17 of this Annex.

VIII. Flight time and total working time

37. The total working time of a crew member must not exceed:

a) 60 hours of work during 7 consecutive days;

b) 110 hours of work during 14 consecutive days; and

c) 190 hours of work during 28 consecutive days, distributed as evenly as possible over this period.

38. The total flight time of a crew member must not exceed:

a) 100 hours of flight time during any 28 consecutive days;

b) 900 hours of flight time in any calendar year; and

c) 1000 hours of flight time during any consecutive 12 calendar months.

39. Post-flight debriefing is considered working time. The operator must specify in its OM the minimum time period for post-flight procedures.

IX. Post-flight duties

40. The operator must specify the duration of post-flight procedures taking into account the type of flights, the type and size of the aircraft and the location of the airport.

X. Positioning

41. If the operator directs a crew member for relocation (positioning), the following rules apply:

a) positioning after reporting but before the start of active flight is counted as part of the FDP but is not considered a separate sector;

b) all time spent on positioning is counted as duty time.

XI. Divided duty

42. The conditions for increasing the maximum daily FDP due to a ground break shall be in accordance with the following:

a) the flight time determination must show the following elements for split operations in accordance with operational specifications applicable to the types of flights:

- the minimum duration of a break in flights on the ground; and

- the possibility of extending the FDP in accordance with paragraph 6, taking into account the duration of the break in flights on the ground, the means provided to the crew member for rest and other relevant factors;

b) the time of the break on the ground counts in full as FDP;

c) a break on the ground is not accompanied by a reduction in rest time.

XII. Waiting and duty at the airport

43. If the operator assigns crew members to standby duty or other types of duty at the airport, the following provisions apply, depending on the type of flights performed:

a) Standby and other airport duties should be included in the duty roster and the start and end times of the duties should be determined in advance and notified to the crew members concerned to enable them to plan adequate rest;

b) a crew member is considered to be on standby at the airport from the appointed time of taking over duty until the appointed time of release from duty;

c) the time spent waiting at the airport is considered service time;

(d) time spent performing any duties at the airport must be counted in full as FDP;

d) the operator provides accommodation for a crew member who is on standby at the airport;

e) the definition of flight time contains the following elements:

1) maximum duration of standby mode;

2) the effect of time spent in standby mode on the maximum FDP, taking into account the arrangements provided to crew members for rest and other relevant factors such as:

- the need for immediate readiness of a crew member,

- the influence of sleep factors on the standby mode, and

- measures to prevent sleep between the call for duty and the duration of the FDP;

3) a minimum rest period before the next standby mode that does not lead to the start of FDP;

4) How is time spent performing duties not at the airport calculated?

XIII. Reserve

44. If an operator designates crew members as reserve, the following requirements must be met in accordance with the applicable certification specifications for the relevant type of operation:

a) the reserve must be included in the duty schedule;

b) flight time determination schemes must establish:

- the maximum duration of one reserve period;

- the maximum number of consecutive reserve days that may be assigned to one crew member.

45. Including reserve in the schedule (also known as "reserve planning") means that reserve time that does not result in an assignment to duty cannot be retroactively recognized as part of the extended recovery rest period.

XIV. Rest periods

46. Minimum Rest Period at Base Airport. The minimum rest period provided prior to the commencement of the FDP at the base airport must be at least the same as for the previous duty period or 12 hours, whichever is greater.

47. As a derogation from paragraph 38, the minimum balance provided for in paragraph 40 shall apply if the operator provides accommodation to the crew member at the base airport.

48. Minimum Rest Period Away from Home. The minimum rest period provided prior to the FDP, starting at the home base airport, must be at least the same as the previous duty period, or 10 hours, whichever is greater. This period must include 8 hours of sleep, transport time, and physiological needs.

49. Reduced rest. Notwithstanding paragraphs 38 and 40, minimum rest periods may be reduced according to the types of flights, taking into account the following elements:

- minimum reduced rest time;
- increasing post-flight rest time; and
- reduction of FDP after reduction of rest time.

50. Periodic Long Rest Periods. Repeated long rest periods compensate for cumulative fatigue. The minimum periodic long rest period is 36 hours, including two local nights, and in any case the time between the end of one repeated long rest period and the beginning of the next long rest period must not exceed 168 hours. The long rest period must be extended to 2 days twice a month.

51. Additional rest periods for compensation:

a) the impact of time zone differences and FDP extensions;

b) additional cumulative fatigue due to tight flight schedules; and

c) change of base airfield.

52. Minimum rest period at home aerodrome if suitable accommodation is provided. An operator may apply a minimum rest period away from home aerodrome during a crew changeover that includes a rest period at the crew member’s home aerodrome. This only applies if the crew member is not taking rest at home because the operator provides suitable accommodation. This type of arrangement is known as a “back-to-back operation”.

53. Minimum rest period away from home aerodrome. The time required for physiological needs should be 1 hour. Therefore, if the transport time to suitable accommodation is more than 30 minutes, the operator should increase the rest period by twice the difference in travel time over 30 minutes.

XV. Nutrition

54. During the FDP period, there must be opportunity for food and drink to avoid compromising the crew member's performance, especially if the FDP exceeds 6 hours.

55. The operator shall indicate in its FDP how meals are provided to the crew member during the FDP.

56. The FDP specifies the minimum meal duration when meals are provided, particularly when the FDP includes regular meal times (e.g. if the FDP starts at 11:00 and ends at 22:00, two meals are provided).

57. Time frames must be defined within which normal food should be consumed so as not to alter the individual's nutritional needs or affect the crew member's body rhythms.

XVI. Records of the place of basing, flying time, duty time and rest time

58. The operator provides storage for 24 months:

1) individual records for each crew member, including:

- flight time of hours;
- the beginning, duration and end of each work period and FDP;
- rest periods and days free from performing duties; and
- location of the base airfield;

2) reports on increasing working hours and reducing rest periods.

59. At the request of the civil aviation authority, the operator shall provide copies of individual records of flight time, service periods and rest periods:

a) the relevant crew member; and

b) another operator, in relation to a crew member who is or becomes a crew member of that operator.

60. Records regarding the FDP of crew members who fly for more than one operator shall be retained for 24 months.

XVII. Fatigue Management Training

61. The operator shall provide initial and periodic fatigue management training to crew members, personnel responsible for preparing and maintaining duty and management of other personnel involved in flight safety.

62. This training must be in accordance with the training program established by the operator and described in the ROP. The training program must cover the possible causes and effects of fatigue and counteracting fatigue.

63. Fatigue Management Training Program The training program should include the following:

1) applicable regulatory requirements for flights, duty and position;

2) the basics of fatigue, including the basics of sleep and the consequences of disruption of the cyclic rhythm;

3) causes of fatigue, including medical conditions that may lead to fatigue;

4) the impact of fatigue on performance;

5) fatigue countermeasures;

6) the influence of lifestyle, including diet, exercise and family life on fatigue;

7) familiarization with sleep disorders and their possible treatment methods;

8) where applicable, the implications of long-haul flights and congested short-haul flight schedules;

9) the impact of flights across or within multiple time zones; and

10) the responsibility of crew members to ensure adequate rest and fitness for flight operations.

XVIII. Certification Specifications for Commercial Air Transport - Scheduled and Charter Flights

64. These specifications apply to commercial aircraft transportation for scheduled and charter flights, excluding emergency medical services (EMS), air taxi and single-pilot aircraft operations.

§ 1. Base airfield

65. A base airfield is the operation of flights from one airfield, which has a high degree of consistency.

66. In the event of a change of home base, the first period of the extended recovery period before the start of duty time at the new home base is extended to 72 hours, including three nights at the new location. The time for transportation between the former and new home bases is the FDP for the relocation.

§ 2. Travel time of the crew

67. Crew members should consider options for temporary accommodation closer to their home aerodrome if travel time from their home to the aerodrome exceeds 90 minutes.

§ 3. Flight duty time (FDP)

68. Night duty flight hours are as follows:

1) When setting the maximum FDP for consecutive night flights, the number of sectors is limited to 4 sectors.

2) The operator shall apply appropriate fatigue risk management (FRM) to actively reduce fatigue caused by night and late duty, taking into account surrounding duty and rest periods.

3) When planning and implementing measures to reduce fatigue during night duty, the operator must distinguish the following subtypes of night duty and classify them according to the degree of probability of the onset of a high level of fatigue by the time the reduction begins:

a) FDP with a start time between 02:00 and 04:59;

b) FDP with an end time between 02:00 and 05:59, if the start is at 01:59 or earlier;

c) FDP with an end time of 06:00 or later if the start time is 01:59 or earlier.

§ 4. Extension of FDP without in-flight rest

69. Extension of FDP without in-flight rest is permitted only within the limits specified in Table 5:

FDP start time	**1-2 sectors** (in hours)	**3 sectors** (in hours)	**4 sectors** (in hours)	**5 sectors** (in hours)
0600-0614	Not allowed	Not allowed	Not allowed	Not allowed
0615–0629	13:15	12:45	12:15	11:45
0630–0644	13:30	13:00	12:30	12:00
0645–0659	13:45	13:15	12:45	12:15
0700–1329	14:00	13:30	13:00	12:30
1330–1359	13:45	13:15	12:45	Not allowed
1400–1429	13:30	13:00	12:30	Not allowed
1430–1459	13:15	12:45	12:15	Not allowed
1500–1529	13:00	12:30	12:00	Not allowed
1530–1559	12:45	Not allowed	Not allowed	Not allowed
1600–1629	12:30	Not allowed	Not allowed	Not allowed
1630–1659	12:15	Not allowed	Not allowed	Not allowed
1700–1729	12:00	Not allowed	Not allowed	Not allowed
1730–1759	11:45	Not allowed	Not allowed	Not allowed
1800–1829	11:30	Not allowed	Not allowed	Not allowed
1830–1859	11:15	Not allowed	Not allowed	Not allowed
1900–0359	Not allowed	Not allowed	Not allowed	Not allowed
0400–0414	Not allowed	Not allowed	Not allowed	Not allowed
0415–0429	Not allowed	Not allowed	Not allowed	Not allowed
0430–0444	Not allowed	Not allowed	Not allowed	Not allowed
0445–0459	Not allowed	Not allowed	Not allowed	Not allowed
0500–0514	Not allowed	Not allowed	Not allowed	Not allowed
0515–0529	Not allowed	Not allowed	Not allowed	Not allowed
0530–0544	Not allowed	Not allowed	Not allowed	Not allowed
0545–0559	Not allowed	Not allowed	Not allowed	Not allowed

§ 5. Extension of FDP due to in-flight rest

70. Provision of in-flight rest shall be in accordance with the following minimum standards for rest areas:

- "Provision"1st class rest area" means a berth or other surface that allows a flat or near-flat sleeping berth. It reclines at least 80° backwards from the vertical and is located separate from the flight crew compartment and the passenger cabin in an area that allows the crew member to control light and provides isolation from noise and disturbance;

- "Provision"2nd class seat" means a seat in the aircraft cabin that reclines at an angle of 45° rearward from the vertical, has at least 55 inches (137.5 cm) of pitch, a seat width of at least 20 inches (50 cm), and provides support for the legs and feet. The cabin is separated from the passenger cabin by at least a curtain to provide darkness and some sound deadening, and is reasonably free from disturbance by passengers or crew members;

- "Provision"3rd class seat" means a seat in the cabin of an aircraft or in the flight crew compartment which reclines at an angle of 40° from the vertical, provides support for the legs and feet, is separated from the passengers by at least a curtain to provide darkness and some sound attenuation, and is not adjacent to the space occupied by the passengers.

71. Extension of FDP to include in-flight rest in accordance with paragraph 6 is permitted only if all of the following conditions are met:

- FDP is limited to 3 sectors; and

- the minimum in-flight rest period shall be granted to a crew member in successive 90-minute periods and shall end two hours for flight crew members prior to the estimated time of landing.

72. The maximum daily FDP may be increased due to flight crew rest in flight:

a) with one additional flight crew member:

- up to 14 hours with 3rd class recreation facilities;
- up to 15 hours with the arrangement of 2nd class rest; or
- up to 16 hours with first class recreation facilities;

b) with two additional flight crew members:

- up to 15 hours with 3rd class recreation facilities;
- up to 16 hours with the arrangement of 2nd class rest; or
- up to 17:00 with first class recreation facilities.

73. Minimum in-flight rest for each crew member:

Maximum extended FDP	Minimum rest in flight (in hours)		
	Class 1	Class 2	Class 3
until 14:30 hours	1:30	1:30	1:30
14:31 - 15:00 hours	1:45	2:00	2:20
15:01 - 15:30 hours	2:00	2:00	2:40
15:31 - 16:00 hours	2:15	2:40	3:00
16:01 - 16:30 hours	2:35	3:00	Not allowed
16:31 - 17:00 hours	3:00	3:25	Not allowed
17:01 - 17:30 hours	3:25	Not allowed	Not allowed
17:31 - 18:00 hours	3:50	Not allowed	Not allowed

74. The limitations specified in paragraph 64 may be increased by 1 hour for FDPs that include one sector of more than 9 hours of continuous flight and a maximum of 2 sectors.

75.All time spent at the vacation spot counts towards FDP.

76. The minimum rest at the destination must be no less than the duration of the previous duty or 14 hours, whichever is greater.

77. A crew member traveling to a new home base as a passenger shall not fly independently from there as a new crew member on the same flight.

§ 6. Unforeseen circumstances in flight – Delayed appearance time.

78. The operator may postpone the reporting time in case of unforeseen circumstances. The procedures for delayed reporting are set out in the operator's OP. The operator maintains a record of delayed reporting. The procedures for delayed reporting establish a threshold of time when crew members must be accommodated for rest. In such a case, if a crew member is informed of the delay time in the flight, the FDP is calculated as follows:

(a) the first notice of a reporting delay results in the calculation of the maximum FDP in accordance with subparagraphs (c) or (d) of paragraph 70;

b) if the delay time is further changed, the FDP shall be counted from 1 hour after the additional notification of the delay or from the time of the initial delay in the flight, if earlier;

c) when the delay is less than 4 hours, the maximum FDP is calculated based on the original FDP time or the FDP starts counting from the beginning of the delay to the flight time;

d) If the delay is 4 hours or more, the maximum FDP is calculated from the most restrictive time - original or delayed - and the start of the FDP is calculated from the delayed time of appearance;

d) as an exception to subparagraphs a) and b) of paragraph 70, when the operator informs a crew member of a delay of 10 hours or more in working time and the crew member is not called to work by the operator, such a delay of 10 hours or more shall be considered a rest period.

§ 7. Night flights – managing fatigue risks

79. When assigning crew to night flights longer than 10 hours (hereinafter referred to as "long night duty"), it is critical to ensure adequate sleep prior to the flight, especially if the crew member will be awake during the day in their acclimation time zone. To maintain crew alertness and performance at night, sleep should be provided close to the start of the FDP calculation to ensure peak alertness at night. However, the crew should not be scheduled to have a long period of alertness prior to a night flight (e.g. by having to get into uniform well in advance of reporting). Fatigue risk management principles for night flight planning include the following:

a) a crew member is not assigned to long night flights after a long rest period to restore working capacity;

b) gradual reduction of the duration of FDP time preceding long night flights;

c) a series of night flights precedes flights with short FDPs; and

d) preventing early assignments for long night flights.

80. Fatigue risk management principles for flight order preparation include:

a) taking into account the experience of the operator or industry in performing similar flights;

b) evidence-based flight planning practices; and

c) bio-mathematical models.

§ 8. Rest during flight

81. In-flight rest must be provided during the cruising flight phase.

82. In-flight rest is provided to flight crew members to maintain their performance and control of the aircraft during landing.

§ 9. Deferred appearance - additional provisions

83. The operator's delayed reporting procedures must:

a) determine the mode of interaction between the crew member and the operator in the event of a change in the reporting time;

b) establish minimum and maximum notice times; and

c) prevent the impact of crew member sleep disruption caused by change in reporting time, whenever possible.

§ 10. Divided duty

84. An increase in the maximum duration of FDP due to split duty is permitted subject to the following conditions:

a) A ground break within the FDP must have a minimum duration of 3 consecutive hours;

b) The break does not include the time required for pre- and post-flight procedures, as well as for movement. The minimum total time allocated for these tasks is 30 minutes. The actual time must be determined by the operator in the RPP;

c) The maximum FDP specified inpoint 6may be increased by 50% of the duration of the break that meets the specified requirements;

d) Suitable rest accommodation is provided either for a break of 6 hours or more or for a break that falls within the WOCL period;

d) in all other cases:

- suitable accommodation is provided; and

- FDP is not extended if the actual break in working hours exceeds 6 hours or falls within the WOCL period.

e) Split duty cannot be combined with FDP extension through in-flight rest within the same duty.

§ 11. Pre-flight, post-flight procedures and time for movement.

85. The operator shall determine the time for post-flight debriefing, pre-flight preparation and travel time during crew transportation, taking into account the type of aircraft, types of flights and airport conditions.

§ 12. Waiting

86. Airport Standby Mode:

a) Unless associated with an FDP, the airport standby period follows the rest period;

b) If the FDP commences from an airport hold, the following applies:

- FDP starts from the start of the FDP of the main crew. The maximum FDP is reduced by the time spent in standby mode over 4 hours;
- maximum total waiting time at the airport and FDP is 16 hours.

87. Standby mode other than airport standby:

a) the maximum waiting time, excluding waiting at the airport, is 16 hours;

b) the operator's procedures for the standby mode ensure that the crew member's wakefulness time during the combination of the standby mode and FDP is not exceeded 18 hours;

c) 25% of the time spent in a waiting mode other than waiting at the airport;

d) the standby mode follows the rest period;

d) the standby mode is terminated after the time specified in the order has elapsed;

e) if the standby mode is terminated within the first 6 hours, the maximum number of FDPs is calculated from the start of the prime crew FDP;

g) if the standby mode is terminated after the first 6 hours, the maximum FDP is reduced by the amount of the standby time over 6 hours;

h) if the FDP is extended due to in-flight rest in accordance with or is divided in split mode in accordance with, then the 6 hours of subparagraphs e) and g) of this paragraph shall be extended to 8 hours;

i) if the holding pattern commences between 23:00 and 07:00, the time between 23:00 and 07:00 shall not be reduced in FDP in accordance with subparagraphs e), g) and h) of this paragraph until the operator instructs the crew member otherwise; and

k) the time of call and commencement of the FDP established by the operator must allow the crew member to arrive from his rest place to the designated place within a reasonable time.

§ 13. Standby mode – minimum rest time and standby mode

88. If the initial holding time at an airport or other location is reduced by the operator without leading to the commencement of an FDP, the minimum rest requirements are specified in Chapter XIV of these Regulations.

89. If the minimum rest period specified in paragraph 93 of these Regulations is provided before the start of the FDP on standby, this period of time shall not be considered as working time.

90. Standby time other than airport standby time is considered service time.

§ 14. Standby mode other than the standby mode at the airport

91. The operator's procedures for calling for departure in a holding mode other than an airport holding mode shall prevent the crew member from being affected by sleep, if possible.

§15. Standby mode – Wakeful time

92. Staying awake for more than 18 hours reduces a person's performance and should be avoided.

§ 16. Reserve

93. The operator shall assign a crew member to the reserve in accordance with the following:

a) The FDP shall commence at the time of arrival of the crew member at the location designated by the operator;

b) Reserve time is not included in working hours;

c) The operator shall determine the maximum number of consecutive reserve days within the limits.

d) To ensure an 8-hour sleep opportunity, the operator shall schedule a period of 8 hours, based on fatigue management principles, for each reserve day during which a crew member on reserve is not called up by the operator.

§ 17. Notification of appointment to the reserve

94. The operator's procedures for reporting assigned duties while on standby should, whenever possible, avoid disruption of sleep patterns.

§ 18. Prior notification

95. The minimum notice period for a crew member to be assigned to a flight or standby is 10 hours, including an eight-hour period when he is not in direct communication with the operator.

§ 19. Periodic extended restorative rest

96. The provisions of Chapter XIV of these Regulations shall apply to a crew member in reserve.

§ 20. Rest periods

97. Violation of the rest schedule:

- When planning an early departure after a late/night arrival at the home airport, the rest period between two FDPs includes one local night.

- If a crew member has 4 or more night flights, early departures or late arrivals between two extended rest periods, then The second extended reserve recovery period is extended to 60 hours.

98. Time zone difference:

A)"Rotation"is a flight comprising at least one flight and one off-base rest period, commencing at the base aerodrome and ending at the base rest airport, where the operator is no longer responsible for the accommodation of the crew member;

b) The operator monitors rotations and combinations of rotations for their impact on crew member fatigue and changes assignments as necessary;

c) the difference in time zones is compensated by additional rest as follows:

- at the base airport, if the rotation includes a time difference of 4 hours or more, the minimum balance is specified in the following Table;

Minimum number of nights of rest at the base airport to compensate for the difference in time zones:

Maximum time difference (hour) between the destination and the local time where a crew member rests during a rotation	Rest time in rotation (hour) after the firstFDP with a flight with a time zone difference of at least 4 hours			
	<48	**48 - 71:59**	**72 - 95:59**	**≥96**
≤6	**2**	**2**	**3**	**3**
≤	**2**	**3**	**3**	**4**
≤12	**2**	**3**	**4**	**5**

- away from the home aerodrome, if the FDP involves a time difference of 4 hours or more, the minimum rest following that FDP shall be at least as long as the previous duty time or 14 hours, whichever is greater.

(d) in the case of flights in the East-West or West-East direction, the crew member shall be provided with at least three local nights of rest at the base airport;

d) monitoring of rotation combinations is carried out by the operator's administration system.

99. Shortened rest:

1) Minimum periods of reduced rest are 12 hours at the base airport and 10 hours away from the base.

2) Reduced rest is used to manage fatigue risks.

3) The rest period following the period of reduced rest is increased by the difference between the minimum rest period and a period of shortened rest.

4) FDP after a shortened rest period is reduced by the difference between the minimum rest period and the shortened rest period.

5) There is a maximum of two reduced rest periods between two repeated extended rest periods.

100. Elapsed time since start of flight:

- The time elapsed since the start of the flight for a rotation, including at least a 4-hour time zone difference, ceases to be counted when the crew member returns to the home aerodrome and the operator is no longer responsible for the crew member's accommodation.

§ 21. Additional rest to compensate for time zone differences. Rest after a rotation of three or more FDPs.

101. For a "rotation" involving three or more FDPs, the greatest difference in time zones from the departure point shall be used to determine the minimum number of local rest nights to compensate for the time zone differences. If such a "rotation" involves crossing time zones in both directions, the calculation shall be based on the greatest number of time zones crossed during a single FDP.

Appendix 17

Handbook of current regulations concerning flight recorders

(Additional material to §10 of Chapter 6)

1. INTRODUCTION

1. Since 1973, when the flight recorder installation SARPs were incorporated into Annex 6, new and revised flight recorder requirements have been developed. The current amendments include updated provisions for flight recorders, digital communications recording; FDR requirements for new aircraft; a revised parameter list; and provisions for a two-hour duration of CVR recordings. During this period, the process of establishing the applicability date and determining the installation requirements of the SARPs has been complex.

2. Below are tables that provide a summary of the current requirements for the installation of flight recorders.

Table I-1. SARPs related to the installation of FDR/AIR/ADRS/AIRS

<table>
<tr><td rowspan="3">Date</td><td colspan="9">MCTOM</td></tr>
<tr><td colspan="3">More than 27,000 kg</td><td colspan="3">More than 5700 kg</td><td colspan="3">5700 kg and less</td></tr>
<tr><td>All aircraft with new type certificate</td><td>All aircraft with first airworthiness certificate</td><td>All gas turbinesaircraft with first airworthiness certificate</td><td>Allaircraft with new type certificate</td><td>All aircraft with first airworthiness certificate</td><td>All gas turbinesaircraft with first airworthiness certificate</td><td>All gas turbinesaircraft with new flight certificate suitability</td><td>All gas turbinesaircraft with first airworthiness certificate</td><td>Multi-engine gas turbinesaircraft with first airworthiness certificate</td></tr>
<tr><td></td><td rowspan="5"></td><td rowspan="2"></td><td>p. 226
p. 229</td><td rowspan="5"></td><td rowspan="2"></td><td>p. 226</td><td rowspan="5"></td><td rowspan="5"></td><td rowspan="3"></td></tr>
<tr><td>1987</td><td>p. 228</td><td>p. 227</td></tr>
<tr><td>1989</td><td rowspan="3">p. 223</td><td rowspan="4"></td><td rowspan="3">p. 224</td><td rowspan="4"></td></tr>
<tr><td>1990</td><td rowspan="2">p. 225</td></tr>
<tr><td>2005</td><td rowspan="2">p. 230</td><td rowspan="2">p. 230</td></tr>
<tr><td>2016</td><td>Table A7-1 (some parameters selected with increased frequency registration)</td><td>Table A7-1 (some parameters selected with increased frequency registration)</td><td>p. 221</td><td>p. 222</td><td></td></tr>
</table>

2023	p. 331	p. 232		p. 231	p. 232				

Table I-2. SARPs related to CVR/CARS installation

Date	**MCTOM**					
	More than 27,000 kg		More than 5700 kg		More than 2250 kg	
	All planes	All gas turbine aircraft with first airworthiness certificate	All aircraft with first airworthiness certificate	All gas turbine aircraft with first airworthiness certificate	All multi-pilot turbine aircraft with new type certificate	All multi-pilot gas turbine aircraft with first flight certificate suitability
				p. 240		
1987						
2003						
2016	p.242	p.239	p. 238			
2021	p. 243				p. 235	p. 236

Table I-3. SARPs related to combination recorders

Date	**MCTOM**			
	More15,000 kg	More5,700 kg		Less5,700 kg
	All aircraft with a new type certificate requiring CVR and FDR	All aircraft with a new type certificate requiring CVR and FDR	All aircraft requiring CVR and FDR	All multiengine turbine aircraft requiring FDR and/or CVR
2016	p. 264	p. 263	p. 265	p. 266

Table I-4. Flight Crew-Vehicle Interaction Recording

Date	MCTOM	
	More than 27,000 kg	More than 5700 kg
	All aircraft with new type certificate	All aircraft with first airworthiness certificate
2023	p. 253	p. 254

Table I-5. Data Link Recorder (DLC) Installation Notes

Line number	Date of issue of the first individual airworthiness certificate	Date of issue of aircraft type certificate or first approval of modification for installation of DLC equipment	Dateactivations for using DLC equipment	RegistrationDLCnecessary	Link to SARPS
1	On or after January 1, 2016	On or after January 1, 2016	On or after January 1, 2016	Yes	p. 258
2	On or after January 1, 2016	Until January 1, 2016	On or after January 1, 2016	Yes	p. 248
3	Until January 1st 2016	On or after January 1, 2016	On or after January 1, 2016	Yes	p. 248
4	Until January 1st 2016	Until January 1, 2016	Until January 1, 2016	No	p. 249
5	Until January 1st 2016	Until January 1, 2016	On or after January 1, 2016	No 1	p. 249 p. 250

2. TABLE HEADINGS

3. The date of issue of the first individual airworthiness certificate is self-explanatory.

4. The date of issue of an aircraft type certificate or first approval of a

modification to install DLC equipment means the date on which the installation of DLC equipment on an aircraft is authorized and refers to the airworthiness approval of the installed aircraft components, such as structural components and wiring, with which the DLC equipment must comply. These airworthiness approvals are typically issued in the form of a type certificate, a supplement to a type certificate or an amended type certificate.

5. Original operators of aircraft that have airworthiness approvals for DLC capability often decide not to install or activate DLC equipment even though the aircraft is ready to use such equipment.

6. The activation date for use of DLC equipment means the date on which the DLC function referred to in paragraph 45 of Appendix 7 was first activated for use.

7. The term "data link communications (DLC) equipment" as used in these provisions means physical unit(s) (e.g. block(s)) that has been approved in accordance with the minimum performance requirements established by a certification authority (e.g. TSO or ETSO).

8. Activation of DLC features means activation of DLC features using approved software or an approved software update.

9. DLC registration required means a requirement to register messages transmitted over the DLC in accordance with the provisions of paragraphs 248, 249 and 250.

3. GENERAL PROVISIONS

10. The date that determines the requirement to record messages transmitted on the DLC is the date on which the aircraft CVR system was approved. The date on which the DLC equipment was approved to meet the minimum performance requirements is not relevant for the purposes of satisfying the requirement to record CVR data.

11. For DLC equipment to meet the requirements for airworthiness approval, it must allow the use, without modification, of the installed aircraft components required to provide the DLC function, such as:

а) data line router (e.g. installed in the communication control unit);

б) radio communication equipment (e.g. VHF, HF data link, SATCOM) and associated antennas.

12. Approved software updates to installed equipment or software-based feature activation generally do not affect the compliance of the DLC equipment with the rest of the aircraft systems.

4. EXAMPLES

13. Regarding lines 1 and 2:

The requirement to record messages is defined in paragraph 248 of these

Rules, which is based on when the individual airworthiness certificate was first issued. Any subsequent airworthiness modifications related to the possibility of using DLC do not relieve the aircraft from the requirement to record messages transmitted on the DLC.

14. Regarding lines 3–5. General provisions:

The requirement to register messages is defined in paragraph 249 of these Rules and is based on whether the aircraft has been approved for airworthiness with respect to the possibility of using DLC, and is also determined by the date of issue of such approval.

Because there was no requirement to record messages transmitted using DLC prior to 1 January 2016, airworthiness approvals related to DLC capability issued prior to that date did not necessarily include this functionality.

15. Regarding line 3:

– The requirement to record messages applies regardless of when the airworthiness certificate was issued, as long as the airworthiness approval associated with the DLC capability was issued on or after 1 January 2016. The date of installation of the equipment will generally be a date after the airworthiness approval.

16. Regarding line 4:

– The requirement to record messages does not apply because the certificate of airworthiness and the airworthiness approval of the aircraft that relate to the capability to use the DLC were issued prior to 1 January 2016. The date of installation of the DLC equipment is not a factor in determining the requirement to record messages transmitted over the DLC, provided that the equipment complies with the specified airworthiness approval.

17. Regarding line 5:

– The requirement to record messages does not apply because the certificate of airworthiness and the airworthiness approval of the aircraft that relate to the capability to use the DLC were issued prior to 1 January 2016. The date of installation of the DLC equipment is not a factor in determining the requirement to record messages transmitted over the DLC, provided that the equipment complies with the specified airworthiness approval.

18. Notwithstanding the above, if activation for use of DLC equipment was made on or after 1 January 2016, messages transmitted via DLC must be recorded in accordance with paragraph 250 of these Rules.

Appendix 18

Breaks in flight operations.

Break.	**Type of training.**	**Volume of preparation.**	
		Pilots.	***Other flight crew members.**
If, within the preceding 90 days, he has not completed at least three take-offs and landings on an aircraft of the same type or on a flight simulator approved for this purpose. (and, from 90 days to 6 months).	Check and inspection flights.	2 flights.	2 flights**.
A pilot who has logged at least 1,500 hours of flight time as a pilot may perform the functions of a captain requiring the presence of a second pilot when carrying persons on board at night only if, during the previous six months, he has completed at least three takeoffs and three landings at night on an aircraft of the same type or, during twelve months, has completed at least six takeoffs and six landings at night on a simulator simulating a flight on an aircraft of the same type.	Check and inspection flights.	2 flights.	-
From 6 months to 12	1. FFS (Fiber-optic system)	8 hours.	8 hours.**
	2. Operational flights under the supervision of an instructor.	2 flights.	2 flights.**
	3.Qualification check:	2 flights.	2 flights.
From 12 months to 24.	1. Advanced training courses for the aircraft type over a one-year cycle or ground training and knowledge testing at the airline.	28 hours.	28 hours.
	2. Simulator training and qualification testing	8 hours.	8 hours.
	3. Operational flights under the supervision of an instructor.	4 flights.	2 flights.

	4. Qualification check.	2 flights.	2 flights.
From 24 months to 48 months.	1. Advanced training courses of the Armed Forces type over a three-year cycle.	72 hours.	According to the program by aircraft type
	2. Simulator training and qualification examination.	16 hours.	16 hours.
	3.Ground preparation in the airline.	04.00	04.00
	4. Operational flights under control instructors.	8 flights.	6 flights.
	5. Qualification check.	2 flights.	2 flights.
From 48 months to 60 months.	According to the aircraft type retraining program and the commissioning program.		
More than 60 months.	Only with the permission of the Regional State Administration (by decision of the State Commission) for separately approved programs.		

Note: If a flight crew member had a break on one type of aircraft and at the same time performed flights on another type of aircraft, then the head of the flight service, taking into account the candidate's experience, may reduce simulator training and operational flights by no more than 50%.

***Other members of the flight crew are the navigator; flight engineer/flight mechanic; flight radio operator.*

** *Except flight radio operator.*

Operational flights and qualification checks for navigators, flight engineers/flight mechanics and flight radio operators may be performed by a pilot-instructor as part of the flight crew.