Bhutan Civil Aviation Requirements

Air Traffic Management/Air Navigation Services (ATM/ANS)

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Bhutan Civil Aviation Authority

RECORD OF AMENDMENTS AND CORRIGENDA

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FOREWORD

Section 59 of the Civil Aviation Act of Bhutan 2016 empowers the Head of Bhutan Civil Aviation Authority (BCAA) to make Rules and Regulations concerning the use of airspace, air navigation facilities and services. Pursuant to this provision of the Act and the provisions under section 7 of Bhutan Air Navigation Regulations (BANRs) the first edition of Bhutan Civil Aviation Requirement – Air Traffic Management/Air Navigation Services (BCAR – ATM/ANS) has been develop; laying down the requirements for providers of Air Traffic Management/Air Navigation Services and other associated functions.

BCAR-ATM/ANS is organised into three parts: Definitions of the terms used in the document, the common requirements for service providers and additional requirements specific to the provider of a particular service. Any legal or natural persons, intending to begin or continue providing the ATM/ANS and other associated functions, must demonstrate compliance with all the applicable requirements in this BCAR, including its acceptable means of compliance (AMC) unless an alternative means of compliance (Alt MOC) has been adopted or approved by the Authority- through a certification or oversight programme.

The first edition of BCAR- ATM/ANS, which is construed to refer to this document, is hereby published in accordance with section 56 of the Act.

Any difference existing between this BCAR and the related ICAO Standards and Recommended Practices, including those with PANS status and any amendments thereto will be notified to the ICAO and published in the Aeronautical Information Publication (AIP).

BCAR-ATM/ANS is a controlled document and the provisions contained herein are subject to change through amendments.

Director
Bhutan Civil Aviation Authority

CHAPTER I: DEFINITIONS OF TERMS USED IN CHAPTER II TO XIII

(PART-DEFINITIONS)

For the purposes of Chapter II to XIII, the following definitions shall apply:

(1) **'aircraft'** means any machine that can derive support in the atmosphere from the reactions of the air other than the reactions of the air against the earth's surface;

(2) **acceptable means of compliance (AMC)'** means non-binding standards adopted by the Authority to illustrate means to establish compliance with the Regulation;

(3) **'accident'** means an occurrence associated with the operation of an aircraft which, in the case of a manned aircraft, takes place between the time any person boards the aircraft with the intention of flight until such time as all such persons have disembarked, or in the case of an unmanned aircraft, takes place between the time the aircraft is ready to move with the purpose of flight until such time it comes to rest at the end of the flight and the primary propulsion system is shut down, in which:

(a) a person is fatally or seriously injured as a result of:

— being in the aircraft, or,

— direct contact with any part of the aircraft, including parts which have become detached from the aircraft, or,

— direct exposure to jet blast, except when the injuries are from natural causes, self-inflicted or inflicted by other persons, or when the injuries are to stowaways hiding outside the areas normally available to the passengers and crew; or

(b) the aircraft sustains damage or structural failure which adversely affects the structural strength, performance or flight characteristics of the aircraft, and would normally require major repair or replacement of the affected component, except for engine failure or damage, when the damage is limited to a single engine, (including its cowlings or accessories), to propellers, wing tips, antennas, probes, vanes, tires, brakes, wheels, fairings, panels, landing gear doors, windscreens, the aircraft skin (such as small dents or puncture holes) or minor damages to main rotor blades, tail rotor blades, landing gear, and those resulting from hail or bird strike, (including holes in the radome); or

(c) the aircraft is missing or is completely inaccessible;

(4) **'aerial work'** means an aircraft operation in which an aircraft is used for specialized services such as agriculture, construction, photography, surveying, observation and patrol, search and rescue or aerial advertisement;

(5) **'aerodrome climatological summary'** means a concise summary of specified meteorological elements at an aerodrome, based on statistical data;

(6) **'aerodrome climatological table'** means a table providing statistical data on the observed occurrence of one or more meteorological elements at an aerodrome;

(7) **'aerodrome elevation'** means the elevation of the highest point of the landing area;

(8) **'aerodrome flight information service (AFIS)'** means flight information service and alerting service for aerodrome traffic at an aerodrome;

(9) **'aerodrome meteorological office'** means an office responsible for providing meteorological service for an aerodrome;

(10) **'aerodrome warning'** means information issued by an aerodrome meteorological office concerning the occurrence or expected occurrence of meteorological conditions which could adversely affect aircraft on the ground, including parked aircraft and the aerodrome facilities and services;

(11) **'aeronautical data'** means a representation of aeronautical facts, concepts or instructions in a formalized manner suitable for communication, interpretation or processing;

(12) **'aeronautical database'** means a collection of aeronautical data organise and arranged as a structured data set, stored electronically on systems, which is valid for a dedicated period and may be updated;

(13) **'aeronautical fixed service (AFS)'** means a telecommunication service between specified fixed points provided primarily for the safety of air navigation and for the regular, efficient and economical operation of air services;

(14) **'aeronautical fixed telecommunication network (AFTN)'** means a worldwide system of aeronautical fixed circuits provided, as part of the AFS, for the exchange of messages and/or digital data between aeronautical fixed stations having the same or compatible communications characteristics;

(15) **'aeronautical information'** means information resulting from the assembly, analysis and formatting of aeronautical data;

(16) **'aeronautical information service'** means a service establishedwithin thedefined area of coverage responsible for the provision of aeronautical information and data necessary for the safety, regularity,and efficiency of air navigation;

(17) **'aerodrome mapping data'** means data collected for the purpose of compiling aerodrome mapping information;

(18) **'aerodrome mapping database (AMDB)'** means a collection of aerodrome mapping data organised and arranged as a structured data set;

(19) **'aeronautical meteorological station'** means a station making observations and meteorological reports for use in air navigation;

(20) **'air-report'** means a report from an aircraft in flight prepared in conformity with the requirements for position and operational and/or meteorological reporting;

(21) **'aircraft'** means any machine that can derive support in the atmosphere from the reactions of the air other than the reactions of the air against the earth's surface;

(22) **'AIRMET message'** means information issued by a meteorological watch office concerning the occurrence or expected occurrence of specified *en-route* weather phenomena which may affect the safety of low-level aircraft operations and of the development of those phenomena in time and space, and which was not already included in the forecast issued for low-level flights in the flight information region concerned or sub-area thereof; 'air traffic safety electronics personnel (ATSEP)' means any authorized personnel who are competent to operate, maintain, release from, and return into operations equipment of the functional system;

(23) **'air navigation services'** means air traffic services; communication, navigation and surveillance services; meteorological services for air navigation; and aeronautical information services;

(24) **'airspace management'** means a planning function with the primary objective of maximizing the utilization of available airspace by dynamic time-sharing and, at times, the segregation of airspace among various categories of airspace users on the basis of short-term needs;

(25) **'air traffic control (ATC) service'** means a service provided for thepurpose of:

(a) preventing collisions:

— between aircraft, and

— in the maneuvering area between aircraft and obstructions;and

(b) expediting and maintaining an orderly flow of air traffic;

(26) **'air traffic management (ATM)'** means the aggregation of the airborne and ground-based functions (air traffic services, airspace management and air traffic flow management) required to ensure the safe and efficient movement of aircraft during all phases of operations;

(27) **'air traffic services unit'** is a generic term meaning variously air traffic control unit, flight information centre, aerodrome flight information service unit or air traffic services reporting office;

(28) **'alternate aerodrome'** means an aerodrome to which an aircraft may proceed when it becomes either impossible or inadvisable to proceed to or to land at the aerodrome of intended landing where the necessary services and facilities are available, where aircraft performance requirements can be met and which is operational at the expected time of use;

(29) **'alternative means of compliance (AltMOC)'** means those means of compliance that propose an alternative to an existing AMC or those that propose new means to establish compliance with the Requirements for which no associated AMC have been adopted by the Authority;

(30) **'altitude'** means the vertical distance of a level, a point, or an object considered as a point, measured from mean sea level;

(31) **'anonymisation'** means the removal from occurrence reports of all personal details relating to the reporter and to the persons mentioned in occurrence reports and any details, including the name of the organization(s) involved in the occurrence, which may reveal the identity of the reporter or of a third party or lead to that information being inferred from the occurrence report;

(32) **'area control centre (ACC)'** means a unit established to provide air traffic control service to controlled flights in control areas under its jurisdiction;

(33) **'area forecast for low-level flights'** means a forecast of weather phenomena for a flight information region or sub-area thereof, issued to cover the layer below flight level 100 (or below flight level 150 in mountainous areas, or higher, where necessary);

(34) **'area navigation (RNAV)'** means a method of navigation which permits aircraft operation on any desired flight path within the coverage of ground- or space-based navigation aids or within the limits of the capability of self-contained aids, or a combination of them;

(35) **'argument'** means a claim that is supported via inferences by a body of evidence;

(36) **'ASHTAM'** means a special series of NOTAM notifying by means of a specific format of a change in the activity of a volcano, a volcanic eruption and/or volcanic ash cloud that is of significance to aircraft operations

(37) [Reserved];

(38) **'audit'** means a systematic, independent and documented process for obtaining evidence and evaluating it objectively to determine the extent to which requirements are complied with;

(39) **'authoritative source'** means:

(a) a State Authority: or

(b) an organisation formally recognised by the State Authority to originate and/or publish data which meets the data quality requirements (DQRs) as specified by that State;

(40) **'automatic observing system'** means an observing system that measures, derives and reports all required elements without human interaction;

(41) **'aviation undertaking'** means an entity, person or organisation, other than the service providers regulated by this Regulation, that is affected by or affects a service delivered by a service provider;

(42) **'break'** means a period of time within the duty period when an air traffic controller is not required to perform duties, for recuperation purposes;

(43) **'bundle of services'** means two or more air navigation services;

(44) **'causes'** means actions, omissions, events, conditions, or a combination thereof, which led to the accident or incident; the identification of causes does not imply the assignment of fault or the determination of administrative, civil or criminal liability;

(45) **'certificate'** means a document issued by the Authority in any form complying with national law, which confirms that an air navigation service provider meets the requirements for providing a specific service;

(46) **'cloud of operational significance'** means a cloud with the height of cloud base below 1500 m (5 000 ft) or below the highest minimum sector altitude, whichever is greater, or a cumulonimbus cloud or a towering cumulus cloud at any height;

(47) **'commercial air transport'** means any aircraft operation involving the transport of passengers, cargo or mail for remuneration or other valuable consideration;

(48) **'control area'** means a controlled airspace extending upwards from a specified limit above the earth;

(49) **'continuing oversight'** shall mean the tasks to be conducted to verify that the conditions under which a certificate has been granted continue to be fulfilled at any time during its period of validity, as well as the taking of any safeguard measure;

(50) **'critical incident stress'** means the manifestation of unusual and/or extreme emotional, physical and/or behavioural reactions of an individual following an event or incident;

(51) **'data quality'** means a degree or level of confidence that the provided data meets the user's data requirements in terms of accuracy, resolution, integrity (or equivalent assurance level), traceability, timeliness, completeness, and format;

(52) **'data quality requirements (DQRs)'** means a specification of the characteristics of data (i.e. accuracy, resolution, integrity (or equivalent assurance level), traceability, timeliness, completeness and format) to ensure that the data is compatible with its intended use;

(53) **'destination alternate'** means an alternate aerodrome at which an aircraft would be able to land should it become either impossible or inadvisable to land at the aerodrome of intended landing;

(54) **'duty'** means any task that an air traffic controller is required to perform by the air traffic control service provider;

(55) **'duty period'** means a period which starts when an air traffic controller is required by the air traffic control service provider to report for or be available for or to commence duty and ends when the air traffic controller is free from duty;

(56) **'disidentified information'** means information arising from occurrence reports from which all personal data such as names or addresses of natural persons have been removed;

(57) **'elevation'** means the vertical distance of a point or a level, on or affixed to the surface of the earth, measured from mean sea level;

(58) **'en-route alternate'** means an alternate aerodrome at which an aircraft would be able to land in the event that a diversion becomes necessary while *en-route*;

(59) **'fatal injury'** means an injury which is sustained by a person in an accident and which results in his or her death within 30 days of the date of the accident;

(60) **'fatigue'** means a physiological state of reduced mental or physical performance capability resulting from sleep loss or extended wakefulness, circadian phase or workload (mental or physical activity, or both) that can impair an individual's alertness and ability to safely perform his/her tasks;

(61) **'flight documentation'** means documents, including charts or forms, containing meteorological information for a flight;

(62) **'flight information centre (FIC)'** means a unit established to provide flight information service and alerting service;

(63) **'flight information region (FIR)'** means an airspace of defined dimensions within which flight information service and alerting service are provided;

(64) **'flight level (FL)'** means a surface of constant atmospheric pressure which is related to a specific pressure datum, 1 013,2 hectopascals (hPa), and is separated from other such surfaces by specific pressure intervals;

(65) **'flight test'** means a flight for the development phase of a new design (aircraft, propulsion systems, parts and appliances), a flight to demonstrate compliance to certification basis or to type design for aircraft coming from the production line, a flight intended to experiment new design concepts, requiring unconventional manoeuvres or profiles for which it could be possible to exit the already approved envelope of the aircraft or a training flight to perform either of those flights;

(66) **'forecast'** means a statement of expected meteorological conditions for a specified time or period, and for a specified area or portion of airspace;

(67) **'forecast for take-off'** means a forecast for a specified period of time, prepared by an aerodrome meteorological office, which contains information on expected conditions over the runways complex in regard to surface wind direction and speed and any variations thereof, temperature, pressure (QNH) and any other element as agreed locally;

(68) **'functional system'** means a combination of procedures, human resources and equipment, including hardware and software, organised to perform a function within the context of ATM/ANS and other related functions;

(69) **'general aviation'** means any civil aircraft operation other than aerial work or commercial air transport;

(70) **'grid point data in digital form'** means computer-processed meteorological data for a set of regularly spaced points on a chart, for transmission from a meteorological computer to another computer in a code form suitable for automated use;

(71) **'guidance material'** means non-binding material developed by the Authority that helps to illustrate the meaning of a requirement or specification and is used to support the interpretation of applicable provision of the Regulation;

(72) **'gridded global forecasts'** means forecasts of expected values of meteorological elements on a global grid with a defined vertical and horizontal resolution;

(73) **'hazard'** means any condition, event, or circumstance which could induce a harmful effect;

(74) **'height'** means the vertical distance of a level, a point or an object considered as a point, measured from a specified datum;

(75) **'level'** is a generic term relating to the vertical position of an aircraft in flight and meaning variously height, altitude or flight level;

(76) **'incident'** means an occurrence, other than an accident, associated with the operation of an aircraft which affects or could affect the safety of operation;

(77) **'local routine report'** means a meteorological report issued at fixed time intervals, intended only for dissemination at the aerodrome of origin where the observations were made;

(78) **'local special report'** means a meteorological report issued in accordance with the criteria established for special observations, intended only for dissemination at the aerodrome of origin where the observations were made;

(79) **'meteorological bulletin'** means a text comprising meteorological information preceded by an appropriate heading;

(80) **'meteorological information'** means meteorological report, analysis, forecast, and any other statement relating to existing or expected meteorological conditions;

(81) **'meteorological observation'** means the measurement and/or evaluation of one or more meteorological elements;

(82) **'meteorological report'** means a statement of observed meteorological conditions related to a specified time and location;

(83) **'meteorological satellite'** means an artificial Earth satellite making meteorological observations and transmitting these observations to Earth;

(84) **'meteorological watch office'** means an office monitoring meteorological conditions affecting flight operations and providing information concerning the occurrence or expected occurrence of specified *en-route* weather phenomena, natural and other hazards which may affect the safety of aircraft operations within a specified area of responsibility;

(85) **'minimum sector altitude (MSA)'** means the lowest altitude which may be used which will provide a minimum clearance of 300 m (1 000 ft) above all objects located in an area contained within a

sector of a circle of 46 km (25 NM) radius centred on a significant point, the aerodrome reference point (ARP) or the heliport reference point (HRP);

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

(87) **'obstacle'** means all fixed (whether temporary or permanent) and mobile objects, or parts thereof, that:

(a) are located on an area intended for the surface movement of aircraft; or

(b) extend above a defined surface intended to protect aircraft in flight; or

(c) stand outside those defined surfaces and have been assessed as being a hazard to air navigation;

(88) **'occurrence'** means any safety-related event which endangers or which, if not corrected or addressed, could endanger an aircraft, its occupants or any other person and includes in particular an accident or serious incident;

(89) **'OPMT'** means operational meteorological information for use in preparatory or in-flight planning of flight operations;

(90) **'OPMET databank'** means a databank established to store and make available internationally operational meteorological information for aeronautical use;

(91) **'pre-eruption volcanic activity'** means an unusual and/or increasing volcanic activity which could presage a volcanic eruption;

(92) **'prevailing visibility'** means the greatest visibility value, observed in accordance with the definition of 'visibility', which is reached within at least half the horizon circle or within at least half of the surface of the aerodrome. These areas could comprise contiguous or non-contiguous sectors;

(93) **'problematic use of psychoactive substances'** means the use of alcohol and or one or more psychoactive substances by an individual, in a way that:

(a) constitutes a direct hazard to the user or endangers the lives, health, or welfare of others; and/or

(b) causes or worsens an occupational, social, mental or physical problem or disorder;

(94) **'prognostic chart'** means a forecast of (a) specified meteorological element(s) for a specified time or period and a specified surface or portion of airspace, depicted graphically on a chart;

(95) **'psychoactive substances'** means alcohol, opioids, cannabinoids, sedatives and hypnotics, cocaine, other psychostimulants, hallucinogens, and volatile solvents, whereas caffeine and tobacco are excluded;

(96) **'reporter'** means a natural person who reports an occurrence or other safety-related information pursuant to this Regulation;

(97) **'rescue coordination centre (RCC)'** means a unit responsible for promoting efficient organisation of search and rescue services, and for coordinating the conduct of search and rescue operations within a search and rescue region;

(98) **'rest period'** means a continuous and defined period of time, subsequent to and/or prior to duty, during which an air traffic controller is free of all duties;

(99) **'rostering system'** means the structure of duty and rest periods of air traffic controllers in accordance with legal and operational requirements;

(100) **'risk'** means the combination of the overall probability or frequency of occurrence of a harmful effect induced by a hazard and the severity of that effect;

(101) **'runway'** means a defined rectangular area on a land aerodrome prepared for the landing and take-off of aircraft;

(102) **'runway visual range (RVR)'** means the range over which the pilot of an aircraft on the centre line of a runway can see the runway surface markings or the lights delineating the runway or identifying its centre line;

(103) **'safety directive'** means a document issued or adopted by a competent Authority which mandates actions to be performed on a functional system or sets restrictions to its operational use to restore safety when evidence shows that aviation safety may otherwise be compromised;

(104) **'safety management system (SMS)'** means a systematic approach to managing safety, including the necessary organisational structures, accountabilities, policies, and procedures;

(105) **'search and rescue services unit'** is a generic term covering, as the case may be, rescue coordination centre, rescue sub-centre or alerting post;

(106) **'selected volcano observatory'** means a provider, selected by the competent Authority, that observes the activity of a volcano or a group of volcanoes and makes these observations available to an agreed list of aviation recipients;

(107) **'semi-automatic observing system'** means an observing system that allows the augmentation of measured elements and requires a human in the loop for issuing the appropriate reports;

(108) **'serious incident'** means an incident involving circumstances indicating that there was a high probability of an accident and is associated with the operation of an aircraft, which in the case of a manned aircraft, takes place between the time any person boards the aircraft with the intention of flight until such time as all such persons have disembarked, or in the case of an unmanned aircraft, takes place between the time the aircraft is ready to move with the purpose of flight until such time it comes to rest at the end of the flight and the primary propulsion system is shut down. A list of examples of serious incidents is set out in the Appendix I to this Chapter.

(109) **'serious injury'** means an injury which is sustained by a person in an accident and which involves one of the following:

(a) hospitalisation for more than 48 hours, commencing within 7 days from the date the injury was received;

(b) a fracture of any bone (except simple fractures of fingers, toes, or nose);

(c) lacerations which cause severe hemorrhage, nerve, muscle or tendon damage;

(d) injury to any internal organ;

(e) second or third degree burns, or any burns affecting more than 5 % of the body surface;

(f) verified exposure to infectious substances or harmful radiation.

(110) **'SIGMET'** means information concerning *en-route* weather phenomena, which may affect the safety of aircraft operations;

(111) **'SIGMET message'** means information issued by a meteorological watch office concerning the occurrence or expected occurrence of specified *en-route* weather phenomena which may affect the safety of aircraft operations and of the development of those phenomena in time and space;

(112) **'special air-report'** means a meteorological report by an aircraft issued in accordance with the criteria based on observations made during the flight;

(113) **'stress'** means the outcomes experienced by an individual when faced with a potential cause ('stressor') of human performance modification. The experience of the stressor may impact the individual's performance negatively (distress), neutrally or positively (eustress), based on the individual's perception of his/her ability to manage the stressor;

(114) **'system and equipment rating training'** means training designed to impart specific system/equipment knowledge and skills leading towards operational competence;

(115) **'take-off alternate aerodrome'** means an alternate aerodrome at which an aircraft can land should this become necessary shortly after take-off and if it be not possible to use the aerodrome of departure;

(116) **'terminal aerodrome forecast (TAF)'** means a concise statement of the expected meteorological conditions at an aerodrome for a specified period;

(117) **'terrain'** means the surface of the Earth containing naturally occurring features such as mountains, hills, ridges, valleys, bodies of water, permanent ice and snow, and excluding obstacles;

(118) **'threshold'** means the beginning of that portion of the runway usable for landing;

(119) **'touchdown zone'** means the portion of a runway, beyond the threshold, where it is intended that landing aeroplanes first contact the runway;

(120) **'tropical cyclone'** is a generic term for a non-frontal synoptic-scale cyclone originating over tropical or subtropical waters with organise convection and definite cyclonic surface wind circulation;

(121) **'tropical cyclone advisory centre (TCAC)'** means a meteorological centre providing advisory information to meteorological watch offices, world area forecast centres and international OPMET databanks regarding the position, forecast direction and speed of movement, central pressure and maximum surface wind of tropical cyclones;

(122) **'visibility'** means visibility for aeronautical purposes, which is the greater of:

(a) the greatest distance at which a black object of suitable dimensions, situated near the ground, can be seen and recognised when observed against a bright background;

(b) the greatest distance at which lights in the vicinity of 1 000 candelas can be seen and identified against an unlit background;

(123) **'volcanic ash advisory centre (VAAC)'** means a meteorological centre providing advisory information to meteorological watch offices, area control centres, flight information centres, world area forecast centres and international OPMET databanks regarding the lateral and vertical extent and forecast movement of volcanic ash in the atmosphere following volcanic eruptions;

(124) **'world area forecast centre (WAFC)'** means a meteorological centre preparing and issuing significant weather forecasts and upper-air forecasts in digital form on a global basis direct to the Member States by appropriate means as part of the aeronautical fixed service;

(125) **'world area forecast system (WAFS)'** means a worldwide system by which world area forecast centres provide aeronautical meteorological en-route forecasts in uniform standardized formats.

CHAPTER II: REQUIREMENTS FOR AUTHORITY — OVERSIGHT OF SERVICES AND OTHER ATMNETWORK FUNCTIONS

The requirements for the administration and management systems of the Authority responsible for certification, oversight and enforcement in respect of the application of the requirements set out in Chapter III to XIII by the service providers in accordance with Section 7.6 of BANRs shall be as per Annex II of BANRs.

CHAPTER III: COMMON REQUIREMENTS FOR SERVICE PROVIDERS

(PART-ATM/ANS.OR)

SUBPART A — GENERAL REQUIREMENTS (ATM/ANS.OR.A)

ATM/ANS.OR.A.001 Scope

In accordance with Section 7.6 of BANRs, this Chapter establishes the requirements to be met by the service providers.

ATM/ANS.OR.A.005 Application for a service provider certificate

(a) Application for a service provider certificate or an amendment to an existing certificate shall be made in a form and manner established by the Authority, taking into account the applicable requirements of this Regulation;

(b) In accordance with Section 7.6 of BANRs, in order to obtain the certificate, the service provider shall comply with:

(1) the requirements set out in Civil Aviation Act of Bhutan;

(2) the common requirements set out in this Chapter;

(3) the specific requirements set out in Chapter IV to XIII, where those requirements are applicable in light of the services that the service provider provides or plans to provide.

AMC1 ATM/ANS.OR.A.005 Application for a service provider certificate

[Reserved]

ATM/ANS.OR.A.010 Application for a limited certificate

[Reserved]

ATM/ANS.OR.A.015 Declaration by flight information services providers

(a) A flight information services shall be of a temporary nature, for a duration agreed with the competent authority as necessary to ensure proportional safety assurance.

(b) Before ceasing the provision of its services, the flight information services provider declaring its activities shall notify the competent authority within a period determined by the competent authority.

ATM/ANS.OR.A.025 Continued validity of a certificate

(a) A service provider's certificate shall remain valid subject to:

(1) the service provider remaining in compliance with the applicable requirements of this Regulation, including those concerning facilitating and cooperating for the purposes of the exercise of the powers of the Authority and those concerning the handling of findings as specified in points ATM/ANS.OR.A.050 and ATM/ANS.OR.A.055 respectively;

(2) the certificate not having been surrendered, suspended or revoked;

(3) the certificate being within the duration of validity specified during issue.

(b) Upon revocation or surrender, the certificate shall be returned to the Authority without delay.

ATM/ANS.OR.A.030 Continued validity of a declaration of a flight information services provider
[Reserved]

ATM/ANS.OR.A.035 Demonstration of compliance

A service provider shall provide all the relevant evidence to demonstrate compliance with the applicable requirements of this Regulation at the request of the Authority.

ATM/ANS.OR.A.040 Changes — general

(a) The notification and management of:

(1) a change to the functional system or a change that affects the functional system shall be carried out in accordance with point ATM/ANS.OR.A.045;

(2) a change to the provision of service, the service provider's management system and/or safety management system, that does not affect the functional system, shall be carried out in accordance with point (b).

(b) Any change as referred to in point (a)(2) shall require prior approval by the Authority before implementation,unless such a change is notified and managed in accordance with a procedure approved by the Authority as laid down in point ATM/ANS.AR.C.025(c) of Annex II of BANRs.

AMC1 ATM/ANS.OR.A.040 Changes — general

Change of the ownership and/or the location

A change of the service provider’s ownership and/or the location of its facilities should comply with ATM/ANS.OR.A.040(a)(2) and should not be subject to the procedure identified in ATM/ANS.AR.C.025(c) of Annex II of BANRs.

AMC1 ATM/ANS.OR.A.040(b) Changes — general

Procedure for changes requiring prior approval

For changes requiring prior approval, a procedure should define how the service provider should notify the competent authority and obtain an approval issued by that authority:

a) Notifications should be submitted before any such change is made in order to enable the Authority to determine continued compliance with this and other relevant Regulations and also to amend, if necessary, the certificate and the related conditions

b) Changes should only be implemented upon receipt of approval by the competent Authority in accordance with the procedure established by the Authority.

c) The service provider should operate under the conditions prescribed by the Authority during such changes, as applicable.

AMC2 ATM/ANS.OR.A.040(b) Changes — general

Procedure for changes not requiring prior approval

a) For changes not requiring prior approval, the procedure should define how the service provider should notify and manage the change.

b) The service provider should inform the competent authority of any changes to nominated persons specified in ATM/ANS.OR.B.020(b) and ATS.OR.200(1)(iii), as applicable.

ATM/ANS.OR.A.045 Changes to a functional system

(a) A service provider planning a change to its functional system shall:

(1) notify the Authority of the change;

(2) provide the Authority, if requested, with any additional information that allows the Authority to decide whether or not to review the argument for the change;

(3) inform other service providers and, where feasible, aviation undertakings affected by the planned change.

(b) Having notified a change, the service provider shall inform the Authority whenever the information provided in accordance with points (a)(1) and (2) is materially modified, and the relevant service providers and aviation undertakings whenever the information provided in accordance with point (a)(3) is materially modified.

(c) A service provider shall only allow the parts of the change, for which the activities required by the procedures referred to in point ATM/ANS.OR.B.010 have been completed, to enter into operational service.

(d) If the change is subject to Authority review in accordance with point ATM/ANS.AR.C.035 of Annex II of BANRs, the service provider shall only allow the parts of the change for which the Authority has approved the argument to enter into operational service.

(e) When a change affects other service providers and/or aviation undertakings, as identified in point (a)(3), the service provider and these other service providers, in coordination, shall determine:

(1) the dependencies with each other and, where feasible, with the affected aviation undertakings;

(2) the assumptions and risk mitigations that relate to more than one service provider or aviation undertaking.

(f) Those service providers affected by the assumptions and risk mitigations referred to in point (e)(2) shall only use, in their argument for the change, agreed and aligned assumptions and risk mitigations with each other and, where feasible, with aviation undertakings.

AMC1 ATM/ANS.OR.A.045(a) Changes to a functional system

Notification

The notification of a change should not be considered complete until the following information is provided:

a) Name of the organisation notifying the change;

b) Unique identifier of change;

c) Version number of notifications;

d) Title of the change;

e) Date of the submission of the original of this change notification;

f) Scheduled date of entry into service (even if only approximate);

g) Details of the change and its impact;

h) The list of the service providers and other aviation undertakings that are affected by the change as identified in ATM/ANS.OR.A.045(a)(3);

i) Entity in charge of the assurance case; and

j) Identity of a point of contact for communications with the competent authority.

AMC1 ATM/ANS.OR.A.045(a)(3) Changes to a functional system

Notification to user of the service

Having notified a change, the service provider should:

a) individually inform all known service providers potentially affected by the notified change; and

b) inform all aviation undertakings potentially affected by the change either individually or via a representative body of aviation undertakings or by publishing details of the planned change in a dedicated publication of the service provider or aeronautical information publications such as an aeronautical information circular (AIC).

AMC1 ATM/ANS.OR.A.045(b) Changes to a functional system

Modification of a notified change

a) The service provider should inform the Authority that was initially notified about any update in the notification data when the information provided in a previous notification about the same change is no longer valid or when information previously missing becomes available. The other service providers and aviation undertakings should also be informed, when they are affected by the new data.

b) The cancellation of a previously notified change should be considered as a modification of a notified change. Therefore, the service provider should inform about this update to the competent authority, and inform other service providers and aviation undertakings that were initially informed about the change.

AMC1 ATM/ANS.OR.A.045(c); (d) Changes to a functional system

Entry into operational service of a change selected for review

The service provider should not start the implementation of any part of the change that has the potential to affect the safety of the services currently being provided until a valid safety (support) assessment for that part of the change exists and, if the change is subject to Authority review, it has been approved by the Authority.

AMC1 ATM/ANS.OR.A.045(e) Changes to the functional system

Changes affecting multiple service providers — overarching safety argument

A change as defined in ATM/ANS.OR.A.045(e) may involve more than one service provider changing their functional systems. In this case, the change will consist of a set of changes to different ATM/ANS functional systems or their context. However, no matter how many individual changes to service providers' functional systems are part of the change, they should be coordinated. An overarching safety argument, coherent with the argument of the individual changes that claims the complete change is safe should be provided.

ATM/ANS.OR.A.050 Facilitation and cooperation

A service provider shall facilitate inspections and audits by the Authority or by qualified entity acting on its behalf and it shall cooperate as necessary for the efficient and effective exercise of the powers of the competent authorities referred to in Section 7.5 of BANRs.

ATM/ANS.OR.A.055 Findings and corrective actions

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

(a) identify the root cause of the non-compliance;

(b) define a corrective action plan that meets the approval by the Authority;

(c) demonstrate corrective action implementation to the satisfaction of the Authority within the time period proposed by the service provider and agreed with that Authority, as defined in point ATM/ANS.AR.C.050(e) of Annex II of BANRs

AMC1 ATM/ANS.OR.A.055(b) Findings and corrective actions

General

The corrective action plan defined by the service provider should address the effects of the non-conformity and its root cause.

ATM/ANS.OR.A.060 Immediate reaction to a safety problem

A service provider shall implement any safety measures, including safety directives, mandated by the Authority in accordance with point ATM/ANS.AR.A.025(c) of Annex II of BANRs.

ATM/ANS.OR.A.065 Occurrence reporting

(a) A service provider shall report to the Authority and to any other organization required by the authority where the service provider provides its services, any accident, serious incident and occurrence.

(b) Without prejudice to point (a), the service provider shall report to the Authority and to the organisation responsible for the design of system and constituents, if different from the service provider, any malfunction, technical defect, exceeding of technical limitations, occurrence, or other irregular circumstance that has or may have endangered the safety of services and that has not resulted in an accident or serious incident.

(c) The reports referred to in points (a) and (b) shall be made in a form and manner established by the Authority and contains all the pertinent information about the event known to the service provider.

(d) Reports shall be made as soon as possible and in any case within 72 hours of the service provider identifying the details of the event to which the report relates unless exceptional circumstances prevent this.

(e) The service provider shall produce a follow-up report to provide details of actions it intends to take to prevent similar occurrences in the future, as soon as these actions have been identified. This report shall be produced in a form and manner established by the Authority.

AMC1 ATM/ANS.OR.A.065 Occurrence reporting

Reporting procedures

The service provider should establish procedures to be used for reporting to the competent authority and any other organisation required which include:

a) description of the applicable requirements for reporting;

b) description of the reporting mechanism, including reporting forms, means and deadlines;

c) personnel responsible for reporting; and

d) description of mechanism and personnel responsibilities for identifying root causes, and the actions that may be needed to be taken to prevent similar occurrences in the future, as appropriate.

AMC1 ATM/ANS.OR.A.065(a) Occurrence reporting

General

a) The service provider should submit all reportable occurrences as defined chapter I;

b) In addition to the reports required by (a), the service provider should report volcanic ash clouds, encountered by aircraft operators, for which it has become aware of.

AMC1 ATM/ANS.OR.A.065(a) Occurrence reporting

(a) The service provider should submit all reportable occurrences as defined below:

This list below is structured in such a way that the pertinent occurrences are linked with categories of activities during which they are normally observed, according to experience, in order to facilitate the reporting of those occurrences. However, this presentation must not be understood as meaning that occurrences must not be reported in case they take place outside the category of activities to which they are linked in the list

I. Aircraft-related occurrences

(1) A collision or a near collision on the ground or in the air, between an aircraft and another aircraft, terrain or obstacle (including vehicles), including near-controlled flight into terrain (near CFIT).

(2) Separation minima infringement; this refers to a situation in which prescribed separation minima were not maintained between aircraft or between aircraft and airspace to which separation minima is prescribed

(3) Inadequate separation. In the absence of prescribed separation minima, a situation in which aircraft were perceived to pass too close to each other for pilots to ensure safe separation.

(4) ACAS RAs.

(5) Wildlife strike including bird strike.

(6) Taxiway or runway excursion.

(7) Actual or potential taxiway or runway incursion.

(8) Final Approach and Take-off Area (FATO) incursion.

(9) Aircraft deviation from ATC clearance.

(10) Aircraft deviation from applicable air traffic management (ATM) regulation:

(i) aircraft deviation from applicable published ATM procedures;

(ii) airspace infringement including unauthorised penetration of airspace;

(iii) deviation from aircraft ATM-related equipment carriage and operations, as mandated by applicable regulations.

(11) Call sign confusion related occurrences.

I. Degradation or total loss of services or functions

(1) Inability to provide ATM services or to execute ATM functions:

(i) inability to provide air traffic services or to execute air traffic services functions;

(ii) inability to provide airspace management services or to execute airspace management functions;

(iii) inability to provide air traffic flow management and capacity services or to execute air traffic flow management and capacity functions.

(2) Missing or significantly incorrect, corrupted, inadequate or misleading information from any support service, including relating to poor runway surface conditions. Examples of support services are air traffic service (ATS), automatic terminal information service (ATIS), meteorological services, navigation databases, maps, charts, aeronautical information service (AIS), manuals etc.

(3) Failure of communication service.

(4) Failure of surveillance service

(5) Failure of data processing and distribution function or service.

(6) Failure of navigation service.

(7) Failure of ATM system security which had or could have a direct negative impact on the safe provision of service.

(8) Significant ATS sector/position overload leading to a potential deterioration in service provision.

(9) Incorrect receipt or interpretation of significant communications, including lack of understanding of the language used, when this had or could have a direct negative impact on the safe provision of service.

(10) Prolonged loss of communication with an aircraft or with other ATS unit.

II. Other occurrences

(1) Declaration of an emergency (‘Mayday’ or ‘PAN’ call).

(2) Significant external interference with Air Navigation Services (for example radio broadcast stations transmitting in the FM band, interfering with ILS (instrument landing system), VOR (VHF Omni Directional Radio Range) and communication).

(3) Interference with an aircraft, an ATS unit or a radio communication transmission including by firearms, fireworks, flying kites, laser illumination, high-powered lights lasers, Remotely Piloted Aircraft Systems, model aircraft or by similar means.

(4) Fuel dumping.

(5) Bomb threat or hijack.

(6) Fatigue impacting or potentially impacting the ability to perform safely the air navigation or air traffic duties.

(7) Any occurrence where the human performance has directly contributed to or could have contributed to an accident or a serious incident.

(8) In addition to the reports required by (a), the service provider should report volcanic ash clouds, encountered by aircraft operators, for which it has become aware of.

ATM/ANS.OR.A.070 Contingency plans

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

ATM/ANS.OR.A.075 Open and transparent provision of services

(a) A service provider shall provide its services in an open and transparent manner. It shall publish the conditions of access to its services and changes thereto and establish a consultation process with the users of its services on a regular basis or as needed for specific changes in service provision, either individually or collectively.

(b) A service provider shall not discriminate on grounds of nationality or other characteristic of the user or the class of users of its services in a manner contrary to the national law.

AMC1 ATM/ANS.OR.A.075(a) Open and transparent provision of services

General — providers of air navigation services and air traffic flow management

Providers of air navigation services and air traffic flow management should consult with the users of their services at least once a year.

SUBPART B — MANAGEMENT (ATM/ANS.OR.B)

ATM/ANS.OR.B.001 Technical and operational competence and capability

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

ATM/ANS.OR.B.005 Management system

(a) A service provider shall implement and maintain a management system that includes:

(1) clearly defined lines of responsibility and accountability throughout its organisation, including a direct accountability of the accountable manager;

(2) a description of the overall philosophies and principles of the service provider with regard to safety, quality, and security of its services, collectively constituting a policy, signed by the accountable manager;

(3) the means to verify the performance of the service provider's organisation in light of the performance indicators and performance targets of the management system;

(4) a process to identify changes within the service provider's organisation and the context in which it operates, which may affect established processes, procedures and services and, where necessary, change the management system and/or the functional system to accommodate those changes;

(5) a process to review the management system, identify the causes of substandard performance of the management system, determine the implications of such substandard performance, and eliminate or mitigate such causes;

(6) a process to ensure that the personnel of the service provider are trained and competent to perform their duties in a safe, efficient, continuous and sustainable manner. In this context, the service provider shall establish policies for the recruitments and training of its personnel;

(7) a formal means for communication that ensures that all personnel of the service provider are fully aware of the management system that allows critical information to be conveyed and that makes it possible to explain why particular actions are taken and why procedures are introduced or changed.

(b) A service provider shall document all management system key processes, including a process for making personnel aware of their responsibilities, and the procedure for the amendment of those processes.

(c) A service provider shall establish a function to monitor compliance of its organisation with the applicable requirements and the adequacy of the procedures. Compliance monitoring shall include a feedback system of findings to the accountable manager to ensure effective implementation of corrective actions as necessary.

(d) A service provider shall monitor the behaviour of its functional system and, where underperformance is identified, it shall establish its causes and eliminate them or, after having determined the implication of the underperformance, mitigate its effects.

(e) The management system shall be proportionate to the size of the service provider and the complexity of its activities, taking into account the hazards and associated risks inherent in those activities.

(f) Within its management system, the service provider shall establish formal interfaces with the relevant service providers and aviation undertakings in order to:

(1) ensure that the aviation safety hazards entailed by its activities are identified and evaluated, and the associated risks are managed and mitigated as appropriate;

(2) ensure that it provides its services in accordance with the requirements of this Requirement.

(g) In the case that the service provider holds also an aerodrome operator certificate, it shall ensure that the management system covers all activities in the scope of its certificates.

AMC1 ATM/ANS.OR.B.005(a) Management system

General

An ISO 9001 certificate, issued by an appropriately accredited organisation, addressing the quality management elements required in this Subpart should be considered a sufficient means of compliance for the service provider. In this case, the service provider should accept the disclosure of the documentation related to the certification to the Authority upon the latter's request.

AMC4 ATM/ANS.OR.B.005(a) Management system

General — Non-complex service providers

a) The policy should include a commitment to improve towards the highest standards, comply with all the applicable legal requirements, meet all the applicable standards, consider the best practices, and provide the appropriate resources.

b) The compliance monitoring task may be exercised by the accountable manager, provided that he or she has demonstrated relevant knowledge, background and appropriate experience related to the activities of the service provider, including knowledge and experience in compliance monitoring.

c) Risk management may be performed using hazard checklists or similar risk management tools or processes, which are integrated into the activities of the service provider.

d) A service provider should manage associated risks related to changes, as applicable. Management of changes should be a documented process to identify external and internal changes.

e) A service provider should identify persons who fulfil the role of managers and who are responsible with regard to safety, quality and security of its services, as applicable. These persons may be accountable managers or individuals with an operational role in the service provider.

f) ensure that the management system is properly implemented and maintained through the allocation of resources and tasks.

AMC1 ATM/ANS.OR.B.005(a)(2) Management system

Policy

a) The policy should:

1) be signed by the accountable manager;

2) reflect organisational commitments regarding performance of its services and safety, where applicable, and its proactive and systematic management;

3) include reporting principles; and

4) include a commitment to:

I. improve towards the highest performance standards so as to support the achievement of the highest level of safety;

b) Senior management should:

1) ensure that the policy:

I. is appropriate to the purpose of service providers;

II. provides a framework for establishing and reviewing objectives in relation to the provision of the service;

III. is communicated and understood within the service provider; and

IV. is reviewed for continuing suitability;

2) continually promote the policy to all personnel and demonstrate their commitment to it;

3) provide necessary and appropriate human and financial resources for its implementation; and

4) establish objectives in relation to the provision of the services and performance standards.

AMC1 ATM/ANS.OR.B.005(a)(3) Management system

Management of Meteorological services performance

a) The management system of the meteorological service provider should provide users with assurance that the meteorological information supplied complies with the stated requirements in terms of geographical and spatial coverage, format and content, time and frequency of issuance and period of validity, as well as the accuracy of measurements, observations and forecasts.

b) When the management system indicates that the meteorological information to be supplied to users does not comply with the stated requirements, and automatic error correction procedures are not appropriate, such information should not be supplied to users unless it is validated with the originator.

c) In regard to the exchange of meteorological information for operational purposes, the management system should include verification and validation procedures and resources for monitoring adherence to the prescribed transmission schedules for individual messages and/or bulletins required to be exchanged as well as the times of their filing for transmission. The management system should be capable of detecting excessive transit times of messages and bulletins received.

AMC2 ATM/ANS.OR.B.005(a)(3) Management system

Safety performance monitoring and measurement — ATS provider

a) Safety performance monitoring and measurement should be the process by which the safety performance of the air traffic services providers is verified in comparison to the safety policy and the safety objectives established by the air traffic services provider.

b) This process should include:

1) safety reporting;

2) safety studies encompassing broad safety concerns;

3) safety reviews including trends reviews, which would be conducted during introduction and deployment of new technologies, change or implementation of procedures, or in situations of structural change in operations;

4) safety audits focusing on the integrity of the air traffic services provider's management system, and periodically assessing the status of safety risk controls; and

5) safety surveys, examining particular elements or procedures of a specific operation, such as problem areas or bottlenecks in daily operations, perceptions and opinions of operational personnel, and areas of dissent or confusion.

AMC1 ATM/ANS.OR.B.005(a)(5) Management system

Assessment of the management system

a) Senior management should assess the service provider's management system, at planned intervals, to ensure its continuing suitability, adequacy and effectiveness.

b) The review should include assessing opportunities for improvement and the need for changes to the management system, including the policy and objectives.

c) Records from management assessments should be maintained.

AMC1 ATM/ANS.OR.B.005(a)(6) Management system

Training and Competency

A service provider should:

a) determine the necessary competence for personnel performing activities supporting services provision;

b) where applicable, provide training or take other actions to achieve the necessary competence;

c) evaluate the effectiveness of the actions taken;

d) ensure that personnel are aware of the relevance and importance of their activities and how they contribute to the achievement of the objectives; and

e) maintain appropriate records of education, training, skills and experience.

AMC1 ATM/ANS.OR.B.005(a)(7) Management system

Communication responsibilities

The senior management should ensure that appropriate communication processes are established within the service provider and that communication takes place regarding the effectiveness of the management system.

AMC1 ATM/ANS.OR.B.005(b) Management system

Service provider's management system documentation

A service provider's management system documentation should at least include the following information:

a) a statement signed by the accountable manager to confirm that the service provider will continuously work in accordance with the applicable requirements and the service provider's documentation as required by this Part and other applicable Parts;

b) the service provider's scope of activities;

c) the titles and names of nominated postholders referred to in ATM/ANS.OR.B.020(b);

d) the service provider's chart showing the lines of responsibility between the persons referred to in ATM/ANS.OR.B.020(b);

e) a general description and location of the facilities referred to in ATM/ANS.OR.B.025;

f) procedures describing the function and specifying how the service provider monitors and ensures compliance with the applicable requirements referred to in ATM/ANS.OR.B.005(c); and

g) the amendment procedure for the service provider's management system documentation.

AMC1 ATM/ANS.OR.B.005(c) Management system

Compliance monitoring — general for complex service providers

a) Compliance monitoring

The implementation and use of a compliance monitoring function should enable the service provider to monitor compliance with the relevant requirements of this Part and other applicable Parts.

(1) A service provider should specify the basic structure of the compliance monitoring function applicable to the activities conducted.

(2) The compliance monitoring function should be structured according to the size of the service provider and the complexity of the activities to be monitored, including those which have been subcontracted.

b) A service provider should monitor compliance with the procedures they have designed to ensure that services are provided with the required safety levels and quality, as applicable. In doing so, they should as a minimum, and where appropriate, monitor:

(1) manuals, logs, and records;

(2) training standards; and

(3) management system procedures.

c) Organisational set-up

(1) A person should be responsible for compliance monitoring to ensure that the service provider continues to meet the requirements of this Part and other applicable Parts. The accountable manager should ensure that sufficient resources are allocated for compliance monitoring.

(2) Personnel involved in the compliance monitoring should have access to all parts of service provider and, as necessary, any contracted organisation.

(3) In the case the person responsible for compliance monitoring acts also as safety manager, the accountable manager, with regard to his or her direct accountability for safety, should ensure that sufficient resources are allocated to both functions, taking into account the size of the service provider and the nature and complexity of its activities.

(4) The independence of the compliance monitoring function should be established by ensuring that audits and inspections are carried out by personnel not directly involved in the activity being audited.

d) Compliance monitoring documentation

(1) Relevant documentation should include relevant part(s) of the service provider's management system documentation.

(2) In addition, relevant documentation should also include:

i. terminology;

ii. specified activity standards;

iii. a description of the service provider;

iv. allocation of duties and responsibilities;

v. procedures to ensure compliance;

vi. the compliance monitoring programme, reflecting:

A) the schedule of the monitoring programme;

B) audit procedures;

C) reporting procedures;

D) follow-up and corrective action procedures; and

E) he record-keeping system;

vii. the training syllabus referred to in (e)(2); and

viii. document control.

e) Training

1) Correct and thorough training is essential to optimize compliance in every service provider. In order to achieve significant outcomes of such training, the service provider should ensure that all personnel understand the objectives as laid down in the service provider's management system documentation.

2) Those responsible for managing the compliance monitoring function should receive training on this task. Such training should cover the requirements of compliance monitoring, manuals and procedures related to the task, audit techniques, reporting and recording.

3) Time should be provided to train all personnel involved in compliance management and for briefing the remainder of the personnel.

4) The allocation of time and resources should be governed by the volume and complexity of the activities concerned.

AMC1 ATM/ANS.OR.B.005(d) Management system

Reaction to underperformance of functional systems

If the cause of the underperformance is found to be:

a) a flaw in the functional system, the service provider should initiate a change to the functional system either to remove the flaw or mitigate its effects;

b) a flawed argument associated with a change to that functional system, the service provider should either:

1) provide a valid argument; or

2) where the service provider considers it more feasible, initiate a change to the functional system.

AMC1 ATM/ANS.OR.B.005(e) Management system

Size, Nature and Complexity of the activity

a) An air traffic services provider should be considered as complex unless it is eligible to apply for a limited certificate and fulfils the criteria set out in ATM/ANS.OR.A.010(a).

b) An air navigation services provider, other than an air traffic services provider, should be considered as complex unless it is eligible to apply for a limited certificate and fulfils the criteria set out in ATM/ANS.OR.A.010(b)(1).

c) An aerodrome flight information services provider should be considered as complex unless it is eligible to apply for a limited certificate and fulfils the criteria set out in ATM/ANS.OR.A.010(b)(2).

d) A service provider, other than an air navigation services provider, should be considered as complex when it has a workforce of more than 20 full-time equivalents (FTEs).

ATM/ANS.OR.B.010 Change management procedures

(a) A service provider shall use procedures to manage, assess and, if necessary, mitigate the impact of changes to its functional systems in accordance with points ATM/ANS.OR.A.045, ATM/ANS.OR.C.005, ATS.OR.205 and ATS.OR.210, as applicable.

(b) The procedures referred to in point (a) or any material modifications to those procedures shall:

(1) be submitted, for approval, by the service provider to the Authority;

(2) not be used until approved by the Authority.

(c) When the approved procedures referred to in point (b) are not suitable for a particular change, the service provider shall:

(1) make a request to the Authority for an exemption to deviate from the approved procedures;

(2) provide the details of the deviation and the justification for its use to the Authority;

(3) not use the deviation before being approved by the Authority.

AMC1 ATM/ANS.OR.B.010(a) Change management procedures

General

a) The procedures, and the change of the procedures, used by a service provider to manage changes should cover the complete lifecycle of a change.

b) The service provider should show that the procedures address all the actions and all the evidence needed in order to comply with the requirements laid down in ATM/ANS.OR.A.045, ATS.OR.205, ATS.OR.210, and ATM/ANS.OR.C.005, as appropriate. For that purpose, the service provider should use a compliance matrix, which shows:

(1) which part of a procedure addresses which part of the Regulation (i.e. the requirement of the implementing rule); and

(2) the rationale explaining how the procedures demonstrate compliance with the Requirement.

c) the service provider should ensure that the roles and responsibilities for the change management processes are identified in the procedures.

d) Procedures should be submitted in a manner agreed between the service provider and the competent authority. Until an agreement is reached, the competent authority will prescribe the means of submission.

e) The procedure that defines the notification process for changes includes:

(1) the point of contact in charge of the notification of changes, e.g. person, or part of the organisation and the role;

(2) the means used for notification, e.g. fax, email, mail, use of database or others.

f) The management of change procedures should include a change identification procedure. This procedure, which is a precursor of the change notification process, should seek out potential changes, confirm that there is a real intent to implement them (propose the change) and, if so, initiate the notification process.

AMC2 ATM/ANS.OR.B.010(a) Change management procedures

General

a) As part of the change management procedures, the service provider should keep a register of the records of all notified changes. The register should include:

(1) the status of the implementation of the change, i.e. planned, under review, under implementation, implemented, or cancelled;

(2) the notification;

(3) (a link to) the location of the actual record, including a reference to all information passed to the competent authority in accordance with ATM/ANS.OR.A.045(a)(2).

b) In addition, when the changes are selected for review, the register should also include:

(1) the review decision from the competent authority; and

(2) a link to records of the change approval by the Authority.

ATM/ANS.OR.B.015 Contracted activities

(a) Contracted activities include all the activities within the scope of the service provider's operations, in accordance with the terms of the certificate, that are performed by other organisations either themselves certified to carry out such activity or if not certified, working under the service provider's oversight. A service provider shall ensure that when contracting or purchasing any part of its activities to external organisations, the contracted or purchased activity, system or constituent conforms to the applicable requirements.

(b) When a service provider contracts any part of its activities to an organisation that is not itself certified in accordance with this Regulation to carry out such activity, it shall ensure that the contracted organisation works under its oversight. The service provider shall ensure that the Authority is given access to the contracted organisation to determine continued compliance with the applicable requirements under this Regulation.

AMC1 ATM/ANS.OR.B.015 Contracted activities

Responsibility when contracting activities

a) A contract should exist between the service provider and the contracted organisation clearly defining the contracted activities and the applicable requirements, including training and competences requirements for air traffic safety electronics personnel (ATSEP) employed by the contracted organisation, where applicable.

b) The contracted activities, performed by an organisation that is not itself certified in accordance with this Regulation to carry out such activity, should be included in the service provider's oversight process. In this context, where the contracted activity requires the ATSEP employed by contracted organisation to undertake any aspect of this activity, the service provider should ensure that those ATSEP have received the applicable training and competences foreseen in Subpart A of Chapter XIII.

c) A service provider should ensure that the contracted organisation has the necessary authorisation, declaration or approval when required, and commands the resources and competence to undertake the task.

AMC2 ATM/ANS.OR.B.015 Contracted activities

Responsibility when contracting activities

a) When the contracted organisation is itself certified in accordance with this Regulation to carry out the contracted activities, the service providers' compliance monitoring should at least check that the approval effectively covers the contracted activities and that it is still valid.

b) When the service provider is not certified itself to provide the service, it should only contract or purchase services from a certified organisation when so required by this Regulation.

ATM/ANS.OR.B.020 Personnel requirements

(a) A service provider shall appoint an accountable manager, who has the authority over ensuring that all activities can be financed and carried out in accordance with the applicable requirements. The accountable manager shall be responsible for establishing and maintaining an effective management system.

(b) A service provider shall define the authority, duties and responsibilities of the nominated post holders, in particular of the management personnel in charge of safety, quality, security, finance and human resources-related functions as applicable.

AMC1 ATM/ANS.OR.B.020(b) Personnel requirements

General

Senior management should appoint a member of the service provider's management who, irrespective of other responsibilities, should have responsibility and authority that includes:

a) ensuring that processes needed for the management system are established, implemented and maintained;

b) reporting to senior management on the performance of the management system and any need for improvement; and

c) ensuring the promotion of awareness of performance and service requirements throughout the service provider and of the impact it has on safety.

ATM/ANS.OR.B.025 Facilities requirements

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

ATM/ANS.OR.B.030 Record-keeping

a) A service provider shall establish a system of record-keeping that allows adequate storage of the records and reliable traceability of all its activities, covering in particular all the elements indicated in point ATM/ANS.OR.B.005.

b) The format and the retention period of the records referred to in point (a) shall be specified in the service provider's management system procedures.

c) Records shall be stored in a manner that ensures protection against damage, alteration and theft.

AMC1 ATM/ANS.OR.B.030 Record-keeping

General

a) The record-keeping system should ensure that all the records required in ATM/ANS.OR.B.030(a) are accessible whenever needed. These records should be organise in a way that ensures traceability and retrieval throughout the retention period.

b) Records should be kept in paper form or in electronic format or a combination of both. Records stored on microfilm or optical disc format are also acceptable. The records should remain legible throughout the required retention period. The retention period starts when a record has been created or last amended.

c) Paper systems should use robust material which can withstand normal handling and filing.

d) Computer systems should have at least one backup system which should be updated within 24 hours of any new entry. Computer systems should include safeguards against the probability of unauthorized personnel altering the data.

e) All computer hardware used to ensure data backup should be stored in a different location from that containing the working data and in an environment that ensures they remain in good condition. When hardware or software changes take place, special care should be taken that all necessary data continues to be accessible at least through the full retention period.

AMC1 ATM/ANS.OR.B.030(b) Record-keeping

Retention period

The records should be kept for a minimum period of at least 5 years unless otherwise specified by the Authority.

ATM/ANS.OR.B.035 Operations manuals

(a) A service provider shall provide and keep up to date its operations manuals relating to the provision of its services for the use and guidance of operations personnel.

(b) It shall ensure that:

(1) operations manuals contain the instructions and information required by the operations personnel to perform their duties;

(2) relevant parts of the operations manuals are accessible to the personnel concerned;

(3) the operations personnel are informed of amendments to the operations manual applying to their duties in a manner that enables their application as of their entry into force.

SUBPART C — SPECIFIC ORGANISATION REQUIREMENT FOR SERVICE PROVIDER OTHER THAN ATS PROVIDER (ATM/ANS.OR.C)

ATM/ANS.OR.C.001 Scope

This Subpart establishes the requirements to be met by the service provider other than the air traffic services provider, in addition to the requirements set out in Subparts A and B.

ATM/ANS.OR.C.005 Safety support assessment and assurance of changes to the functional system

(a) For any change notified in accordance with point ATM/ANS.OR.A.045(a)(1), the service provider other than the air traffic services provider shall:

(1) ensure that a safety support assessment is carried out covering the scope of the change which is:

(i) the equipment, procedural and human elements being changed;

(ii) interfaces and interactions between the elements being changed and the remainder of the functional system;

(iii) interfaces and interactions between the elements being changed and the context in which it is intended to operate;

(iv) the life cycle of the change from definition to operations including transition into service;

(v) planned degraded modes;

(2) provide assurance, with sufficient confidence, via a complete, documented and valid argument that the service will behave and will continue to behave only as specified in the specified context.

(b) A service provider other than an air traffic services provider shall ensure that the safety support assessment referred to in point (a) comprises:

(1) verification that:

(i) the assessment corresponds to the scope of the change as defined in point (a) (1);

(ii) the service behaves only as specified in the specified context;

(iii) the way the service behaves complies with and does not contradict any applicable requirements of this Regulation placed on the services provided by the changed functional system; and

(2) specification of the monitoring criteria necessary to demonstrate that the service delivered by the changed functional system will continue to behave only as specified in the specified context.

AMC1 ATM/ANS.OR.C.005(a)(2) Safety support assessment and assurance of changes to the functional system

Form of assurance

Service providers other than air traffic services providers should ensure that the assurance is documented in a safety support case.

AMC2 ATM/ANS.OR.C.005(a)(2) Safety support assessment and assurance of changes to the functional system

Completeness of the argument

The argument should be considered complete when it shows that:

a) the safety support assessment of ATM/ANS.OR.C.005(b) has produced a service specification and context specification where:

1) the service has been defined in terms of functionality, performance and the form of the interfaces;

2) the specification of context correctly and completely records the conditions under which the specification of the service is true;

3) the interaction of components, under failure conditions or failures in services delivered to the components, have been assessed for their impact on the service and, where necessary, degraded modes of service have been defined; and

4) the specification encompasses the interaction with the environment;

b) safety support requirements have been placed on the elements changed and on those elements affected by the change;

c) the behaviour necessitated by the safety support requirements is the complete behaviour expressed by the service specification;

d) all safety support requirements have been traced from the service specification to the level of the architecture at which they have been satisfied;

e) each component satisfies its safety support requirements; and

f) the evidence is derived from known versions of the components and the architecture and known sets of products, data and descriptions that have been used in the production or verification of those versions.

AMC3 ATM/ANS.OR.C.005(a)(2) Safety support assessment and assurance of changes to the functional system

Determination of the specification of the changed service

When determining the changes in the service specification that have resulted from the change to the functional system, service providers other than air traffic services providers should ensure that:

a) the properties specified for the service can be observed and measured either directly or indirectly with a degree of certainty commensurate with the level of confidence sought from assurance; and

b) the specification of the changed service must cover everything that has changed in the service provided when operated within the declared operational context.

AMC4 ATM/ANS.OR.C.005(a)(2) Safety support assessment and assurance of changes to the functional system

Determination of the operational context for the change

a) When determining the operational context for the change, service providers other than an air traffic services provider should ensure that:

1) the specification of the operational context can be shown to be true for all circumstances and environments in which the changed service is intended to operate;

2) the operational context is completely and coherently specified; and

3) the specification of the operational context is internally consistent.

b) The operational context must be specified so that its adherence to (a)(1) and (a)(2) is observable and measurable either directly or indirectly with a degree of certainty commensurate with the level of confidence sought from assurance.

AMC1 ATM/ANS.OR.C.005(b)(1) Safety support assessment and assurance of changes to the functional system

Verification

The service provider other than the air traffic services provider should ensure that verification activities of the safety support assessment process include verification:

a) that the full scope of the change is addressed throughout the whole assessment process, i.e. all the elements of the functional system or environment of operation that are changed or affected by the change and those unchanged elements that depend upon them and on which they depend are identified;

b) that the way the service behaves complies with and does not contradict any requirements placed on the changed service by another part of the regulations or conditions attached to the providers' certificate;

c) that the specification of the way the service behaves and the safety support requirements are complete and correct;

d) that the specification of the operational context is complete and correct;

e) that the specification was analyzed in the context in which it is intended to operate;

f) of the completeness of the argument as per AMC2 ATM/ANS.OR.C.005(a)(2);

g) that the safety support requirements are correct and complete by reference to the specification; and

h) to the intended degree of confidence, that the implementation satisfies the safety support requirements and behaves only as specified in the given operational context.

AMC1 ATM/ANS.OR.C.005(b)(2) Safety support assessment and assurance of changes to the functional system

Monitoring

Service providers other than an air traffic services provider should ensure that within the safety support assessment process for a change, the monitoring criteria that are to be used to demonstrate that the safety support case remains valid during the operation of the changed functional system, i.e. that the changed service continues to meet its specification, are identified and documented. These criteria should be such that:

a) they indicate that the assumptions made in the safety support case remain valid; and

b) if the properties being monitored remain within the bounds set by these criteria, the service will be behaving as specified.

SUBPART D — SPECIFIC ORGANISATIONAL REQUIREMENTS FOR ANS AND ATFM PROVIDERS AND THE NETWORK MANAGER (ATM/ANS.OR.D)

This Subpart establishes the requirements to be met by air navigation services (ANS) and air traffic flow management (ATFM) providers and the Network Manager, in addition to the requirements set out in Subparts A, B and C.

(a) Business plan
[Reserved]

(b) Annual plan
[Reserved]

(c) Performance part of the plans
[Reserved]

ATM/ANS.OR.D.010 Security management

(a) Air navigation services and air traffic flow management providers and the Network Manager shall, as an integral part of their management system as required in point ATM/ANS.OR.B.005, establish a security management system to ensure:

(1) the security of their facilities and personnel so as to prevent unlawful interference with the provision of services;

(2) the security of operational data they receive, or produce, or otherwise employ, so that access to it is restricted only to those authorized.

(b) The security management system shall define:

(1) the procedures relating to security risk assessment and mitigation, security monitoring and improvement, security reviews and lesson dissemination;

(2) the means designed to detect security breaches and to alert personnel with appropriate security warnings;

(3) the means of controlling the effects of security breaches and to identify recovery action and mitigation procedures to prevent re-occurrence.

(c) Air navigation services and air traffic flow management providers and the Network Manager shall ensure the security clearance of their personnel, if appropriate, and coordinate with the relevant civil and military authorities to ensure the security of their facilities, personnel and data.

(d) Air navigation services and air traffic flow management providers and the Network Manager shall take the necessary measures to protect their systems, constituents in use and data and prevent compromising the network against information and cyber security threats which may have an unlawful interference with the provision of their service.

ATM/ANS.OR.D.015 Financial strength — economic and financial capacity

[Reserved]

ATM/ANS.OR.D.020 Liability and insurance cover

(a) Air navigation services and air traffic flow management providers and the Network Manager shall have in place arrangements to cover liabilities related to the execution of their tasks in accordance with the applicable law.

(b) The method employed to provide the cover shall be appropriate to the potential loss and damage in question, taking into account the legal status of the providers concerned and the Network Manager and the level of commercial insurance cover available.

(c) Air navigation services and air traffic flow management providers and the Network Manager which avail themselves of services of another service provider shall ensure that the agreements that they conclude to that effect specify the allocation of liability between them.

ATM/ANS.OR.D.025 Reporting requirements

(a) Air navigation services and air traffic flow management providers shall provide an annual report of their activities to the Authority.

(b) For air navigation services and air traffic flow management providers, the annual report shall cover their operational performance and any other significant activities and developments in particular in the area of safety.

(c) [Reserved]

(d) The annual reports referred to in points (a) ~~and (c)~~ shall include as a minimum:

(1) an assessment of the level of performance of services provided;

(2) for air navigation services and air traffic flow management providers, their performance compared to the performance targets established in their business plan, comparing actual performance against the performance set out in the annual plan by using the indicators of performance established in the annual plan;

(3) [Reserved]

(4) [Reserved]

(5) developments in operations and infrastructure;

(6) [Reserved]

(7) information about the formal consultation process with the users of its services;

(8) [Reserved]

(e) Air navigation services and air traffic flow management providers and the Network Manager shall make their annual reports available to the Authority on their request. They shall also make those reports available to the public, if required by the Authority, under the conditions set by the Authority in accordance with national law.

SUBPART E — EXEMPTIONS/DEROGATION FROM THE AIR NAVIGATION SERVICES REQUIREMENTS

ATM/ANS.OR.E.001 Scope

This subpart establishes the requirement for exemption/derogation that may be granted under section 28(1) of Civil Aviation Act of Bhutan 2016.

ATM/ANS.OR.E.005 Application for exemption/derogation

A Service Provider may apply to the Head of the Authority for an exemption from any specific requirement under BCAR ATM/ANS.

ATM/ANS.OR.E.010 Issue of exemption/derogation

The Head of the Authority may issue an exemption from any of the provisions of these regulations and the ANS BCARs as provided for in the Civil Aviation Act. The exemption will be granted based on the current Exemption Policy and Procedure Manual issued by BCAA.

ATM/ANS.OR.E.015 exemptions/derogation from BCAR ATM/ANS requirements during transition

(a) Where an applicant for a certificate in accordance with ATM/ANS.OR.A.005 of these requirements, was already providing an air navigation service before the commencement of these requirements, with an authorisation issued by the Authority, the applicant may be exempted from certain requirements for a specified period as may be determined by the head of the Authority.

(b) The head of the Authority may in the circumstances mentioned in ATM/ANS.OR.A.010(a), issue a temporary authorisation in writing, for the air navigation service provider to continue providing the services for a specified period until approval is granted by the head of the Authority.

(c) The head of the Authority may withdraw any temporary authorisation issued, upon recommendation by an inspector, where serious non-compliances which compromise safety are identified, and the air navigation service provider must immediately cease operations.

(d) The holder of a temporary authorisation which has been withdrawn by the head of the Authority pursuant to ATM/ANS.OR.A.010(c) may apply for re-issue of the temporary authorisation as soon as the identified non-compliances have been resolved.

CHAPTER IV: SPECIFIC REQUIREMENTS FOR PROVIDERS OF AIR TRAFFIC SERVICES

(PART-ATS)

SUBPART A — ADDITIONAL ORGANISATION REQUIREMENTS FOR PROVIDERS OF AIR TRAFFIC SEERVICES

(ATS.OR)

SECTION 1 — GENERAL REQUIREMENTS

ATS.OR.100 Ownership

(a) An air traffic services provider shall notify the Authority of:

(1) its legal status, its ownership structure and any arrangements having a significant impact on control over its assets;

(2) if applicable, any links with organisations not involved in the provision of air navigation services, including commercial activities in which they are engaged either directly or through related undertakings, which account for more than 1 % of their expected revenue; furthermore, it shall notify any change of any single shareholding which represents 10 % or more of their total shareholding.

(b) An air traffic services provider shall take all necessary measures to prevent any situation of conflict of interests that could compromise the impartial and objective provision of its services.

ATS.OR.105 Open and transparent provision of service

In addition to point ATM/ANS.OR.A.075 of Chapter III, the air traffic service provider shall neither engage in conduct that would have as its object or effect the prevention, restriction or distortion of competition, nor shall they engage in conduct that amounts to an abuse of a dominant position, in accordance with applicable national law.

SECTION 2 — SAFETY OF SERVICES

ATS.OR.200 Safety management system

An air traffic services provider shall have in place a safety management system (SMS), which may be an integral part of the management system required in point ATM/ANS.OR.B.005, that includes the following components:

(1) *Safety policy and objectives*

(i) Management commitment and responsibility regarding safety which shall be included in the safety policy.

(ii) Safety accountabilities regarding the implementation and maintenance of the SMS and the Authority to make decisions regarding safety.

(iii) Appointment of a safety manager who is responsible for the implementation and maintenance of an effective SMS;

(iv) Coordination of an emergency response planning with other service providers and aviation undertakings that interfaces with the ATS provider during the provision of its services.

(v) SMS documentation that describes all the elements of the SMS, the associated SMS processes and the SMS outputs.

(2) *Safety risk management*

(i) A process to identify hazards associated to its services which shall be based on a combination of reactive, proactive and predictive methods of safety data collection.

(ii) A process that ensures analysis, assessment and control of the safety risks associated with identified hazards.

(iii) A process to ensure that its contribution to the risk of aircraft accidents is minimized as far as is reasonably practicable.

(3) *Safety assurance*

(i) Safety performance monitoring and measurement means to verify the safety performance of the organisation and validate the effectiveness of the safety risk controls.

(ii) A process to identify changes which may affect the level of safety risk associated with its service and to identify and manage the safety risks that may arise from those changes.

(iii) A process to monitor and assess the effectiveness of the SMS to enable the continuous improvement of the overall performance of the SMS.

(4) *Safety promotion*

(i) Training programme that ensures that the personnel are trained and competent to perform their SMS duties.

(ii) Safety communication that ensures that the personnel are aware of the SMS implementation.

AMC1 ATS.OR.200(1); (2); (3) Safety management system

General — Non-complex ats providers

(a) The safety policy should include a commitment to improve towards the highest safety standards, comply with all the applicable legal requirements, meet all the applicable standards, consider the best practices and provide the appropriate resources.

(b) In cooperation with other stakeholders, the air traffic services provider should develop, coordinate and maintain an emergency response plan (ERP) that ensures orderly and safe transition from

normal to emergency operations and return to normal operations. The ERP should determine the actions to be taken by the air traffic services provider or specified individuals in an emergency and reflect the size, nature and complexity of the activities performed by the air traffic services provider.

(c) Safety risk management may be performed using hazard checklists or similar risk management tools or processes, which are integrated into the activities of the air traffic services provider.

(d) An air traffic services provider should manage safety risks related to changes. Management of changes should be a documented process to identify external and internal changes that may have an adverse effect on safety. It should make use of the air traffic services provider's existing hazard identification, risk assessment and mitigation processes.

(e) An air traffic services provider should identify persons who fulfil the role of safety managers and who are responsible for coordinating the safety management system (SMS). These persons may be accountable managers or individuals with an operational role in the air traffic services provider.

(f) Within the air traffic services provider, responsibilities should be identified for hazard identification, risk assessment and mitigation.

AMC1 ATS.OR.200(1)(i) Safety management system

Safety policy — Complex ATS providers

(a) The safety policy should:

(1) be signed by the accountable manager;

(2) reflect organisational commitments regarding safety and its proactive and systematic management;

(3) be communicated, with visible endorsement, throughout the air traffic services provider;

(4) include safety reporting principles;

(5) include a commitment to:

i. improve towards the highest safety standards;

ii. comply with all the applicable legal requirements, meet all the applicable standards and consider the best practices;

iii. provide appropriate resources; and

iv. enforce safety as one primary responsibility of all managers and staff;

(6) include the safety reporting procedures;

(7) clearly indicate which types of operational behaviours are unacceptable, and include the conditions under which disciplinary action would not apply; and

(8) be periodically reviewed to ensure it remains relevant and appropriate.

(b) Senior management should:

(1) continually promote the safety policy to all personnel and demonstrate their commitment to it;

(2) provide necessary human and financial resources for its implementation; and

(3) establish safety objectives and performance standards.

AMC1 ATS.OR.200(1)(ii) Safety management system

Accountabilities — complex ats providers

The SMS of the air traffic services provider should ensure that:

(a) everyone involved in the safety aspects of the provision of air traffic services has an individual safety responsibility for their own actions;

(b) managers should be responsible for the safety performance of their respective departments or divisions; and

(c) the top management of the provider carries an overall safety responsibility.

AMC1 ATS.OR.200(1)(ii);(iii) Safety management system

Organisation and accountabilities

An air traffic service provider should:

(a) identify the safety manager who, irrespective of other functions, has ultimate responsibility and accountability, on behalf of the organisation, for the implementation and maintenance of the SMS;

(b) clearly define lines of safety accountability throughout the organisation, including a direct accountability for safety on the part of senior management;

(c) identify the accountabilities of all members of management, irrespective of other functions, as well as of employees, with respect to the safety performance of the SMS;

(d) document and communicate safety responsibilities, accountabilities and authorities throughout the organisation; and

(e) define the levels of management with authority to make decisions regarding safety risk tolerability.

AMC2 ATS.OR.200(1)(ii);(iii) Safety management system

Organisation and Accountabilities — Complex ATS providers

The SMS of the air traffic services provider should encompass safety by including a safety manager and a safety review board in the organisational structure.

(a) Safety manager

(1) The safety manager should act as the focal point and be responsible for the development, administration and maintenance of an effective SMS. He or she should be independent of line management, and accountable directly to the highest organisational level.

(2) The role of the safety manager should, as a minimum, be to:

i. ensure that hazard identification, risk analysis and management are undertaken in accordance with the SMS processes;

ii. monitor the implementation of actions taken to mitigate risks;

iii. provide periodic reports on safety performance;

iv. ensure maintenance of safety management documentation;

v. ensure that there is safety management training available and that it meets acceptable standards;

vi. provide advice on safety matters; and

vii. monitor initiation and follow-up of internal occurrence/accident investigations.

(3) The safety manager should have:

i. adequate practical experience and expertise in air traffic services or a similar area;

ii. adequate knowledge of safety and quality management;

iii. adequate knowledge of the working methods and operating procedures; and

iv. comprehensive knowledge of the applicable requirements in the area of air traffic services.

(b) Safety review board

1. The safety review board should be a high-level committee that considers matters of strategic safety in support of the accountable manager's safety accountability.

2. The board should be chaired by the accountable manager and composed of heads of functional areas. The safety review board should, as a minimum:

i. monitor safety performance against safety policy and objectives;

ii. ensure that any safety action is taken in a timely manner; and

iii. monitor the effectiveness of the air traffic services provider's SMS processes.

3. The safety review board should ensure that appropriate resources are allocated to achieve the planned safety performance.

4. The safety manager or any other relevant person may attend, as appropriate, safety review board meetings. He or she may communicate to the accountable manager all information, as necessary, to allow decision-making based on safety data.

AMC1 ATS.OR.200(1)(iv) Safety management system

Coordination of emergency response planning for ats providers — Complex ATS providers

(a) An air traffic services provider should develop, coordinate and maintain a plan for its response to an emergency. It should:

(1) reflect the nature and complexity of the activities performed by the air traffic services provider;

(2) ensure an orderly and safe transition from normal to emergency operations;

(3) ensure safe continuation of operations or return to normal operations as soon as practicable; and

(4) ensure coordination with the ERPs of other organisations, where appropriate.

(b) For emergencies occurring at the aerodrome or in its surroundings, the plan should be aligned with the aerodrome ERP and be coordinated with the aerodrome operator.

AMC1 ATS.OR.200(1)(v) Safety management system

Safety Management Manual (SMM) — Complex ATS providers

The safety management manual should be the key instrument for communicating the approach to safety for the air traffic services provider. The SMM should document all aspects of safety management, including but not limited to the:

(a) scope of the SMS;

(b) safety policy and objectives;

(c) safety accountability of the accountable manager;

(d) safety responsibilities, accountabilities and authorities of key safety personnel throughout the air traffic services provider;

(e) documentation control procedures;

(f) hazard identification and safety risk management schemes;

(g) safety performance monitoring;

(h) incident investigation and reporting;

(i) emergency response planning;

(j) management of change (including organisational changes with regard to safety responsibilities and changes to functional systems); and

(k) safety promotion.

AMC2 ATS.OR.200(1)(v) Safety management system

Safety records — Complex ATS providers

Safety records that should be maintained and retained include but are not limited to:

(a) certificates;

(b) limited certificates;

(c) declarations;

(d) safety policy;

(e) safety accountabilities/responsibilities;

(f) safety occurrences;

(g) emergency response plan;

(h) SMS documentation;

(i) training and competence;

(j) occurrence reports;

(k) safety risk assessments including safety assessment of changes to the functional system;

(l) determination of either complex or non-complex organisation; and

(m) approved alternative means of compliance.

AMC1 ATS.OR.200(3)(iii) Safety management system

Continuous improvement of the SMS— Complex ATS providers

An air traffic services provider should continuously improve the effectiveness of its SMS by:

(a) developing and maintaining a formal process to identify the causes of substandard performance of the SMS;

(b) establishing one or more mechanisms to determine the implications of substandard performance of the SMS;

(c) establishing one or more mechanisms to eliminate or mitigate the causes of substandard performance of the SMS; and

(d) developing and maintaining a process for the proactive evaluation of facilities, equipment, documentation, processes and procedures (through internal audits, surveys, etc.).

AMC1 ATS.OR.200(4)(i) Safety management system

Training and Communication — Complex ATS providers

(a) Training

(1) All personnel should receive safety training as appropriate for their safety responsibilities.

(2) Adequate records of all safety training provided should be kept.

(b) Communication

(1) The ATS provider should establish communication about safety matters that:

a) ensures that all personnel are aware of the safety management activities as appropriate for their safety responsibilities;

b) conveys critical information, especially relating to assessed risks and analysed hazards;

c) explains why particular actions are taken; and

d) explains why safety procedures are introduced or changed.

(2) Regular meetings with personnel where information, actions and procedures are discussed, may be used to communicate safety matters.

ATS.OR.205 Safety assessment and assurance of changes to the functional system

(a) For any change notified in accordance with point ATM/ANS.OR.A.045(a)(1), the air traffic services provider shall:

(1) ensure that a safety assessment is carried out covering the scope of the change, which is:

(i) the equipment, procedural and human elements being changed;

(ii) interfaces and interactions between the elements being changed and the remainder of the functional system;

(iii) interfaces and interactions between the elements being changed and the context in which it is intended to operate;

(iv) the life cycle of the change from definition to operations including transition into service;

(v) planned degraded modes of operation of the functional system; and

(2) provide assurance, with sufficient confidence, via a complete, documented and valid argument that the safety criteria identified via the application of point ATS.OR.210 are valid, will be satisfied and will remain satisfied.

(b) An air traffic services provider shall ensure that the safety assessment referred to in point (a) comprises:

(1) the identification of hazards;

(2) the determination and justification of the safety criteria applicable to the change in accordance with point ATS.OR.210;

(3) the risk analysis of the effects related to the change;

(4) the risk evaluation and, if required, risk mitigation for the change such that it can meet the applicable safety criteria;

(5) the verification that:

(i) the assessment corresponds to the scope of the change as defined in point (a) (1);

(ii) the change meets the safety criteria;

(6) the specification of the monitoring criteria necessary to demonstrate that the service delivered by the changed functional system will continue to meet the safety criteria.

AMC1 ATS.OR.205(a)(2) Safety assessment and assurance of changes to the functional system

Form of assurance

The air traffic services provider should ensure that the assurance required by ATS.OR.205(a)(2) is documented in a safety case.

AMC2 ATS.OR.205(a)(2) Safety assessment and assurance of changes to the functional system

Completeness of the argument

The argument should be considered complete when it shows, as applicable, that:

(a) the safety assessment in ATS.OR.205(b) has produced a sufficient set of non-contradictory valid safety criteria;

(b) safety requirements have been placed on the elements changed and on those elements affected by the change;

(c) the safety requirements as implemented meet the safety criteria;

(d) all safety requirements have been traced from the safety criteria to the level of the architecture at which they have been satisfied;

(e) each component satisfies its safety requirements;

(f) each component operates as intended, without adversely affecting the safety; and

(g) the evidence is derived from known versions of the components and the architecture and known sets of products, data and descriptions that have been used in the production or verification of those versions.

AMC1 ATS.OR.205(b)(1) Safety assessment and assurance of changes to the functional system

Completeness of hazard identification

The air traffic services provider should ensure that hazard identification:

(a) targets complete coverage of any condition, event, or circumstance related to the change, which could, individually or in combination, induce a harmful effect;

(b) has been performed by personnel trained and competent for this task; and

(c) need only include hazards that are generally considered as credible.

AMC2 ATS.OR.205(b)(1) Safety assessment and assurance of changes to the functional system

Hazards to be identified

The following hazards should be identified:

(a) New hazards, i.e. those introduced by the change relating to the:

(1) failure of the functional system; and

(2) normal operation of the functional system; and

(b) Already existing hazards that are affected by the change and are related to:

(1) the existing parts of the functional systems; and

(2) hazards outside the functional system, for example, those inherent to aviation.

AMC1 ATS.OR.205(b)(2) Safety assessment and assurance of changes to the functional system

Determination of the safety criteria for the change

When determining the safety criteria for the change being assessed, the air traffic services provider should, in accordance with ATS.OR.210, ensure that:

(a) the safety criteria support a risk analysis that is:

(1) relative or absolute, i.e. refers to:

(i) the difference in safety risk of the system due to the change (relative); or

(iii) the difference in safety risk of the system and a similar system (can be absolute or relative); and

(iv) the safety risk of the system after the change (absolute); and

(2) objective, whether risk is expressed numerically or not;

(b) the safety criteria are measurable to an adequate degree of certainty;

(c) the set of safety criteria can be represented totally by safety risks, by other measures that relate to safety risk or a mixture of safety risks and these other measures;

(d) the set of safety criteria should cover the change; the safety criteria selected are consistent with the overall safety objectives established by the air traffic services provider through its SMS and represented by its annual and business plan and safety key performance indicators; and

(e) where a safety risk or a proxy cannot be compared against its related safety criteria with acceptable certainty, the safety risk should be constrained and actions should be taken, in the long term, so as to manage safety and ensure that the air traffic services provider's overall safety objectives are met.

AMC1 ATS.OR.205(b)(3) Safety assessment and assurance of changes to the functional system

Completeness of risk analysis

The air traffic services provider should ensure that the risk analysis is carried out by personnel trained and competent to perform this task and should also ensure that:

(a) a complete list of harmful effects in relation to the identified:

(1) hazards, when the safety criteria are expressed in terms of safety risk, or proxies, when the safety criteria are expressed in relation to proxies; and

(2) hazards introduced due to implementation is produced; and

(b) the risk contributions of all hazards and proxies are evaluated; and

(c) risk analysis is conducted in terms of risk or in terms of proxies or a combination of them, using specific measurable properties that are related to operational safety risk; and

(d) results can be compared against the safety criteria.

AMC2 ATS.OR.205(b)(3) Safety assessment and assurance of changes to the functional system

Severity classification of accidents leading to harmful effects

When performing a risk analysis in terms of risk, the air traffic services provider should ensure that the harmful effects of all hazards are allocated a safety severity category and that, where there is more than one safety severity category of harm, any severity classification scheme satisfies the following criteria:

(a) The scheme is independent of the causes of the accidents that it classifies, i.e. the severity of the worst accident does not depend upon whether it was caused by an equipment malfunction or human error;

(b) The scheme permits unique assignment of every harmful effect to a severity category;

(c) The severity categories are expressed in terms of a single scalar quantity and in terms relevant to the field of their application;

(d) The level of granularity (i.e. the span of the categories) is appropriate to the field of their application;

(e) The scheme is supported by rules for assigning a harmful effect unambiguously to a severity category; and

(f) The scheme is consistent with the air traffic services providers views of the severity of the harmful effects covered and can be shown to incorporate societal views of their severity.

AMC1 ATS.OR.205(b)(4) Safety assessment and assurance of changes to the functional system

Risk evaluation

The air traffic services provider should ensure that the risk evaluation includes:

(a) an assessment of the identified hazards for a notified change, including possible mitigation means, in terms of risk or in terms of proxies or a combination of them;

(b) a comparison of the risk analysis results against the safety criteria taking the uncertainty of the risk assessment into account; and

(c) the identification of the need for risk mitigation or reduction in uncertainty or both.

AMC2 ATS.OR.205(b)(4) Safety assessment and assurance of changes to the functional system

Risk mitigation

When the risk evaluation results show that the safety criteria cannot be satisfied, then the air traffic services provider should either abandon the change or propose additional means of mitigating the risk. If risk mitigation is proposed, then the air traffic services provider should ensure that it identifies:

(a) all of the elements of the functional system, e.g. training, procedures that need to be reconsidered; and

(b) for each part of the amended change, those parts of the safety assessment (requirements from (a) to (f)) that need to be repeated in order to demonstrate that the safety criteria will be satisfied.

AMC1 ATS.OR.205(b)(5) Safety assessment and assurance of changes to the functional system

Verification

The air traffic services provider should ensure that verification activities of the safety assessment process include verification that:

(a) the full scope of the change is addressed throughout the whole assessment process, i.e. all the elements of the functional system or environment of operation that are changed and those unchanged elements that depend upon them and on which they depend are identified;

(b) the way the service behaves complies with and does not contradict any applicable requirements placed on the changed service or the conditions attached to the providers certificate;

(c) the specification of the way the service behaves is complete and correct;

(d) the specification of the operational context is complete and correct;

(e) the risk analysis is complete as per AMC1 ATS.OR.205(b)(3);

(f) the safety requirements are correct and commensurate with the risk analysis;

(g) the design is complete and correct with reference to the specification and correctly addresses the safety requirements;

(h) the design was the one analysed; and

(i) he implementation, to the intended degree of confidence, corresponds to that design and behaves only as specified in the given operational context.

AMC1 ATS.OR.205(b)(6) Safety assessment and assurance of changes to the functional system

Monitoring of introduced change

The air traffic services provider should ensure that within the safety assessment process for a change, the monitoring criteria, that are to be used to demonstrate that the safety case remains valid during the operation of the changed functional system, are identified and documented. These criteria are specific to the change and should be such that they indicate that:

(a) the assumptions made in the argument remain valid;

(b) critical proxies remain as predicted in the safety case and are no more uncertain; and

(c) other properties that may be affected by the change remain within the bounds predicted by the safety case.

ATS.OR.210 Safety criteria

An air traffic services provider shall determine the safety acceptability of a change to a functional system, based on the analysis of the risks posed by the introduction of the change, differentiated on basis of types of operations and stakeholder classes, as appropriate.

(a) The safety acceptability of a change shall be assessed by using specific and verifiable safety criteria, where each criterion is expressed in terms of an explicit, quantitative level of safety risk or another measure that relates to safety risk.

(b) An air traffic services provider shall ensure that the safety criteria:

(1) are justified for the specific change, taking into account the type of change;

(2) when fulfilled, predict that the functional system after the change will be as safe as it was before the change or the air traffic services provider shall provide an argument justifying that:

(i) any temporary reduction in safety will be offset by future improvement in safety; or

(ii) any permanent reduction in safety has other beneficial consequences;

(3) when taken collectively, ensure that the change does not create an unacceptable risk to the safety of the service;

(4) support the improvement of safety whenever reasonably practicable.

AMC1 ATS.OR.210(a) Safety criteria

Other measures related to safety risks

When the air traffic services provider specifies the safety criteria with reference to another measure that relates to safety risk, it should use one or more of the following:

(a) proxies;

(b) recognized standards and/or codes of practice; and

(c) the safety performance of the existing functional system or a similar system elsewhere.

AMC2 ATS.OR.210(a) Safety criteria

Other measures related to safety risks — Proxies

Proxies for safety risk, used as safety criteria for those parts of the functional system affected by the change, can only be employed when:

(a) a justifiable causal relationship exists between the proxy and the harmful effect, e.g. proxy increase/decrease causes risk increase/decrease;

(b) a proxy is sufficiently isolated from other proxies to be treated independently; and

(c) the proxy is measurable, quantitatively or qualitatively, to an adequate degree of certainty.

ATS.OR.215 Licensing and medical certification requirements for air traffic controllers

An air traffic services provider shall ensure that air traffic controllers are properly licensed and hold a valid medical certificate in accordance with relevant provision of BCAR - PEL.

SECTION 3 — SPECIFIC HUMAN FACTORS REQUIREMENTS FOR AIR TRAFFIC CONTROL SERVICE PROVIDERS

ATS.OR.300 Scope

This section establishes the requirements to be met by the air traffic control service provider with regard to human performance in order to:

(a) prevent and mitigate the risk that air traffic control service is provided by air traffic controllers with problematic use of psychoactive substances;

(b) prevent and mitigate the negative effects of stress on air traffic controllers to ensure the safety of air traffic;

(c) prevent and mitigate the negative effects of fatigue on air traffic controllers to ensure the safety of air traffic.

ATS.OR.305 Responsibilities of air traffic control service providers with regard to the problematic use of psychoactive substances by air traffic controllers

(a) An air traffic control service provider shall develop and implement a policy, with related procedures, in order to ensure that the problematic use of psychoactive substances does not affect the provision of air traffic control service.

(b) Without prejudice to provision in applicable national legislation on testing of individuals, the air traffic control service provider shall develop and implement an objective, transparent and non-discriminatory procedure for the detection of cases of problematic use of psychoactive substances by air traffic controllers. This procedure shall take into account provisions laid down in BCAR – PEL Chapter 5: Prevention of Problematic Use of Alcohol and Psychoactive Substances.

(c) The procedure in point (b) shall be approved by the Authority.

AMC1 ATS.OR.305(a) Responsibilities of air traffic control service providers with regard to the problematic use of psychoactive substances by air traffic controllers

Policy and Procedures

Within the context of the policy, the air traffic control service provider should:

(a) provide training or educational material to air traffic controllers relating to:

1) the effects of psychoactive substances on individuals and subsequently on air traffic control service provision;

2) established procedures within its organisation regarding this issue; and

3) their individual responsibilities with regard to legislation and policies on psychoactive substances.

(b) make available appropriate support for air traffic controllers who are dependent on psychoactive substances;

(c) encourage air traffic controllers who think that they may have such a problem to seek and accept help made available by their air traffic control service provider;

(d) ensure that air traffic controllers are treated in a consistent, just and equitable manner as regards the problematic use of psychoactive substances; and

(e) establish and implement principles and procedures for occurrence investigation and analysis to consider the problematic use of psychoactive substances as a contributing factor.

AMC1 ATS.OR.305(b) Responsibilities of air traffic control service providers with regard to the problematic use of psychoactive substances by air traffic controllers

Procedure for the detection of cases of problematic use of psychoactive substances

The objective, transparent and non-discriminatory procedure should specify:

(a) the mechanisms and responsibilities for its initiation;

(b) its applicability in terms of timing and locations;

(c) the person(s)/body responsible for testing the individual;

(d) the testing process;

(e) thresholds for psychoactive substances;

(f) the process to be followed in case of detection of problematic use of psychoactive substances by an air traffic controller; and

(g) the appeal process.

ATS.OR.310 Stress

In accordance with point ATS.OR.200, an air traffic control service provider shall:

(a) develop and maintain a policy for the management of air traffic controllers' stress, including the implementation of a critical incident stress management programme;

(b) provide air traffic controllers with education and information programmes on the prevention of stress, including critical incident stress, complementing human factors training provided in accordance with ICAO Doc 9683 Human Factors.

AMC1 ATS.OR.310(a) Stress

Stress management policy

(a) The air traffic controllers' stress management policy should:

(1) declare the commitment to proactively and systematically monitor and manage stress, and describe the expected benefits for the safety of operations;

(2) be signed by the accountable manager;

(3) reflect organisational commitments regarding the implementation of a critical incident stress management programme;

(4) be communicated, with visible endorsement, throughout the air traffic control service provider;

(5) include the commitment to:

i. provide appropriate resources;

ii. consider the best practices;

iii. enforce stress management programme(s) as a responsibility of managers, staff involved in stress management and air traffic controllers;

(6) be periodically reviewed to ensure it remains relevant and appropriate.

(b) In accordance with the policy in point (a), the air traffic control service provider should establish and implement:

(1) procedures for critical incident stress management;

(2) principles and procedures to enable stress reporting;

(3) principles and procedures for occurrence investigation and analysis to consider stress as contributing factor; and

(4) method(s) for the identification and management of the effect of air traffic controllers' stress on the safety of operations.

ATS.OR.315 Fatigue

In accordance with point ATS.OR.200, an air traffic control service provider shall:

(a) develop and maintain a policy for the management of air traffic controllers' fatigue;

(b) provide air traffic controllers with information programmes on the prevention of fatigue, complementing human factors training provided in accordance with ICAO Doc 9683 Human Factors.

AMC1 ATS.OR.315(a) Fatigue

Fatigue management policy

(a) The air traffic controllers' fatigue management policy should:

(1) declare the commitment to proactively and systematically monitor and manage fatigue and describe the expected benefits for the safety of operations;

(2) be signed by the accountable manager;

(3) address the mitigation of the operational impact of air traffic controllers' fatigue;

(4) be communicated, with visible endorsement, throughout the air traffic control service provider;

(5) include a commitment to:

i. consider the best practices;

ii. provide appropriate resources; and

iii. enforce fatigue management as a responsibility of managers, staff involved in fatigue management procedures and air traffic controllers;

(6) be periodically reviewed to ensure it remains relevant and appropriate.

(b) In accordance with the policy in point (a), the air traffic control service provider should establish and implement:

(8) principles and procedures to enable fatigue reporting;

(9) principles and procedures for occurrence investigation and analysis to consider fatigue as contributing factor;

(10) procedures for the identification and management of the effect of fatigue on the safety of operations.

ATS.OR.320 Air traffic controllers' rostering system(s)

(a) An air traffic control service provider shall develop, implement and monitor a rostering system in order to manage the risks of occupational fatigue of air traffic controllers through a safe alternation of duty and rest periods. Within the rostering system, the air traffic control service provider shall specify the following elements:

(1) maximum consecutive working days with duty;

(2) maximum hours per duty period;

(3) maximum time providing air traffic control service without breaks;

(4) the ratio of duty periods to breaks when providing air traffic control service;

(5) minimum rest periods;

(6) maximum consecutive duty periods encroaching the night time, if applicable, depending upon the operating hours of the air traffic control unit concerned;

(7) minimum rest period after a duty period encroaching the night time;

(8) minimum number of rest periods within a roster cycle.

(b) An air traffic control services provider shall consult those air traffic controllers who will be subject to the rostering system, or, as applicable, their representatives, during its development and its application, to identify and mitigate risks concerning fatigue which could be due to the rostering system itself.

AMC1 ATS.OR.320(a)(6);(7) Air traffic controllers' rostering system(s)

Night time

Night time should be considered as the time between midnight and 05.59.

SUBPART B — TECHNICAL REQUIREMENTS FOR PROVIDERS OF AIR TRAFFIC SERVICES (ATS.TR)

SECTION 1 — GENERAL REQUIREMENTS

ATS.TR.100 Working methods and operating procedures for providers of air traffic services

(a) An air traffic services provider shall be able to demonstrate that its working methods and operating procedures are compliant with:

(1) The requirements laid down in the following BCARs, as far as they are relevant to the provision of air traffic services in the airspace concerned:

(i) BCAR – 2 Rules of the Air;

(ii) BCAR - 10 on aeronautical telecommunications, Volume II on communication procedures including those with PANS status;

(iii) BCAR - 11 on air traffic services;

(iv) Relevant provisions of PANS-ATM (Doc 4444).

(b) Notwithstanding point (a), for air traffic services units providing services for flight testing, the Authority may specify additional or alternative conditions and procedures to those contained in point (a) when so required for the provision of services for flight testing.

CHAPTER V — PART-MET: SPECIFIC REQUIREMENTS FOR PROVIDERS OF METEOROLOGICAL SERVICES

SUBPART A — ADDITIONAL ORGANISATION REQUIREMENTS FOR PROVIDERS OF METEOROLOGICAL SERVICES (MET.OR)

SECTION 1 — GENERAL REQUIREMENTS

MET.OR.100 Meteorological data and information

(a) A meteorological services provider shall provide operators, flight crew members, air traffic services units, search and rescue services units, aerodrome operators, accident and incident investigation bodies, and other service providers and aviation entities with the meteorological information necessary for the performance of their respective functions, as determined by the Authority.

(b) A meteorological services provider shall confirm the operationally desirable accuracy of the information distributed for operations, including the source of such information, whilst also ensuring that such information is distributed in a timely manner and updated, as required.

GM1 MET.OR.100 Meteorological data and information

Data and information reliability

Owing to the variability of meteorological elements in space and time, to limitations of observing techniques and to limitations caused by the definitions of some of the elements, the specific value of any of the elements given in a forecast is understood to be the most probable value which the element is likely to assume during the period of the forecast. Similarly, when the time of occurrence or change of an element is given in a forecast, this time is understood to be the most probable time.

AMC1 MET.OR.100(a) Meteorological data and information

Information to be provided

An agreement between the meteorological services provider and the appropriate ATS unit should be established to cover:

(a) the provision in air traffic services units of displays related to integrated automatic systems;

(b) the calibration and maintenance of these displays/instruments;

(c) the use to be made of these displays/instruments by air traffic services personnel;

(d) as and where necessary, supplementary visual observations, such as meteorological phenomena of operational significance in the climb-out and approach areas, if and when made by air traffic services personnel to update or supplement the information supplied by the meteorological station;

(e) meteorological information obtained from aircraft taking off or landing such as on wind shear; and

(f) if available, meteorological information obtained from ground weather radar.

MET.OR.105 Retention of meteorological information

(a) A meteorological services provider shall retain meteorological information issued for a period of at least 30 days from the date of issue.

(b) This meteorological information shall be made available, on request, for inquiries or investigations and, for these purposes, shall be retained until the inquiry or investigation is completed.

MET.OR.110 Meteorological information exchange requirements

A meteorological services provider shall ensure it has systems and processes in place, as well as access to suitable telecommunications facilities to:

(a) enable the exchange of operational meteorological information with other meteorological services providers;

(b) provide the required meteorological information to the users in a timely manner.

MET.OR.115 Meteorological bulletins

The meteorological services provider responsible for the area concerned shall provide meteorological bulletins to the relevant users, via the aeronautical fixed service or the internet.

MET.OR.120 Notification of discrepancies to the World Area Forecast Centres (WAFC)

The meteorological services provider responsible for the area concerned shall, using WAFS BUFR data, notify the WAFC concerned immediately if significant discrepancies are detected or reported in respect of WAFS significant weather (SIGWX) forecasts, concerning:

(a) icing, turbulence, cumulonimbus clouds that are obscured, frequent, embedded, or occurring at a squall line, and sandstorms/dust storms;

(b) volcanic eruptions or a release of radioactive materials into the atmosphere of significance to aircraft operations.

SUBPART B — TECHNICAL REQUIREMENTS FOR PROVIDERS OF METEOROLOGICAL SERVICES (MET.TR)

SECTION 1 — GENERAL REQUIREMENTS

MET.TR.100 Working methods and operating procedures for provision of Meteorological services

A meteorological services provider shall be able to demonstrate that their working methods and operating procedures are compliant with the standards in the following BCARs as far as they are relevant to the provision of meteorological services in the airspace concerned:

(a) BCAR - 3 on Meteorological Service for International and Domestic Air Navigation

CHAPTER VI: SPECIFIC REQUIREMENTS FOR PROVIDERS OF AERONAUTICAL INFORMATION SERVICES

(PART AIS)

SUBPART A — ADDITIONAL ORGANISATION REQUIREMENTS FOR PROVIDERS OF AERONAUTICAL INFORMATION SERVICES

(AIS.OR)

SECTION 1 — GENERAL REQUIREMENTS

AIS.OR.100 Technical and operational competence and capability

(a). An aeronautical information services provider shall ensure that information and data are available for operations in a form suitable for:

a. flight operating personnel, including flight crew;

b. flight planning, flight management systems and flight simulators;

c. air traffic services providers which are responsible for flight information services, aerodrome flight information services and the provision of pre-flight information.

(b). Aeronautical information services providers shall ensure the integrity of data and confirm the level of accuracy of the information distributed for operations, including the source of such information, before such information is distributed.

SUBPART B — TECHNICAL REQUIREMENTS FOR PROVIDERS OF AERONAUTICAL INFORMATION SERVICES

(AIS.TR)

SECTION 1 — GENERAL REQUIREMENTS

AIS.TR.100 Working methods and operating procedures for the provision of aeronautical information services

An aeronautical information services provider shall be able to demonstrate that their working methods and operating procedures are compliant with the requirements laid down in the following BCARs and ICAO PANS and Documents, as far as they are relevant to the provision of aeronautical information services in the airspace concerned:

(a). BCAR – 4 on Aeronautical Charts;

(b). BCAR – 15 on Aeronautical Information Services;

CHAPTER VII — PART-DAT: SPECIFIC REQUIREMENTS FOR PROVIDERS OF DATA SERVICES [RESERVED].

CHAPTER VIII: SPECIFIC REQUIREMENTS FOR PROVIDERS OF COMMUNICATION, NAVIGATION, OR SURVEILLANCE SERVICES

(PART CNS)

SUBPART A — ADDITIONAL ORGANISATION REQUIREMENTS FOR PROVIDERS OF COMMUNICATION, NAVIGATION, OR SURVEILLANCE SERVICES

(CNS.OR)

SECTION 1 — GENERAL REQUIREMENTS

(a). A communication, navigation or surveillance services provider shall ensure the availability, continuity, accuracy and integrity of their services.

(b). A communication, navigation or surveillance services provider shall confirm the quality level of the services they are providing, and shall demonstrate that their equipment is regularly maintained and, where required, calibrated.

SUBPART B — TECHNICAL REQUIREMENTS FOR PROVIDERS OF COMMUNICATION, NAVIGATION, OR SURVEILLANCE SERVICES

(CNS.TR)

SECTION 1 — GENERAL REQUIREMENTS

A communication, navigation or surveillance services provider shall be able to demonstrate that its working methods and operating procedures are compliant with the requirements laid down in the following BCARs and ICAO Documents, as far as they are relevant to the provision of communication, navigation or surveillance services in the airspace concerned:

(a). BCAR – 10, Volume I on radio navigation aids;

(b). BCAR – 10, Volume II on communication procedures, including those with PANS status;

(c). BCAR – 10, Volume III on communications systems;

(d). BCAR – 10, Volume IV on surveillance radar and collision avoidance systems

(e). BCAR – 10, Volume V on aeronautical radio frequency spectrum utilization;

CHAPTER IX — PART-ATFM

SPECIFIC REQUIREMENTS FOR PROVIDERS OF AIR TRAFFIC FLOW MANAGEMENT [RESERVED]

CHAPTER X — PART-ASM: SPECIFIC REQUIREMENTS FOR PROVIDERS OF AIRSPACE MANAGEMENT [RESERVED]

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CHAPTER XI — PART-ASD: SPECIFIC REQUIREMENTS FOR PROVIDERS OF PROCEDURE DESIGN [RESERVED].

CHAPTER XII — PART-NM: SPECIFIC REQUIREMENTS FOR THE NETWORK MANAGER [RESERVED]

CHAPTER XIII — PART-PERS: REQUIREMENTS FOR SERVICE PROVIDERS CONCERNING PERSONNEL TRAINING AND COMPETENCE ASSESSMENT [RESERVED]

APPENDICES I TO CHAPTER I: LIST OF EXAMPLES OF SERIOUS INCIDENTS

The incidents listed are typical examples of incidents that are likely to be serious incidents. The list is not exhaustive and only serves as guidance with respect to the definition of 'serious incident':

— a near collision requiring an avoidance manoeuvre to avoid a collision or an unsafe situation or when an avoidance action would have been appropriate,

— controlled flight into terrain only marginally avoided,

— aborted take-offs on a closed or engaged runway, on a taxiway, excluding authorised operations by helicopters, or from an unassigned runway,

— take-offs from a closed or engaged runway, from a taxiway, excluding authorised operations by helicopters, or from an unassigned runway,

— landings or attempted landings on a closed or engaged runway, on a taxiway, excluding authorised operations by helicopters, or from an unassigned runway,

— gross failures to achieve predicted performance during take-off or initial climb,

— fires and smoke in the passenger compartment, in cargo compartments or engine fires, even though such fires were extinguished by the use of extinguishing agents,

— events requiring the emergency use of oxygen by the flight crew,

— aircraft structural failure or engine disintegration, including uncontained turbine engine failures, not classified as an accident,

— multiple malfunctions of one or more aircraft systems seriously affecting the operation of the aircraft,

— flight crew incapacitation in flight,

— fuel quantity requiring the declaration of an emergency by the pilot,

— runway incursions classified with severity A according to the Manual on the Prevention of Runway Incursions (ICAO Doc 9870) which contains information on the severity classifications,

— take-off or landing incidents. Incidents such as undershooting, overrunning or running off the side of runways,

— system failures, weather phenomena, operation outside the approved flight envelope or other occurrences which could have caused difficulties controlling the aircraft,

— failure of more than one system in a redundancy system mandatory for flight guidance and navigation.

—— **END** ——