BELIZE

DEPARTMENT OF

CIVIL AVIATION

BELIZE CIVIL AVIATION REGULATIONS
AIR TRAFFIC SERVICES
BCAR ATS

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Issue and Revision System

THE REVISIONS TO THIS REGULATION WILL BE INDICATED BY A VERTICAL BAR ON THE LEFT SIDE, IN FRONT OF THE LINE, SECTION OR FIGURE THAT HAS BEEN AFFECTED. AN ISSUE WILL BE THE REPLACEMENT OF THE COMPLETE DOCUMENT.

THESE REVISIONS MUST BE RECORDED ON THE RECORD OF REVISIONS TABLE OF THIS DOCUMENT, INDICATING THE RESPECTIVE NUMBER, DATE IT WAS ENTERED AND SIGNED BY THE PERSON ENTERING THE REVISION.

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Record of Revisions

Number	Date entered:	Entered by:
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1	25/11/2009	R Cocom
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Preamble

The BCAR ATS was emitted on May 2009 and it was developed based on ICAO's Annex 11, thirteenth edition of July 2001, amendment 46 dated 20 November 2008.

This third revision of the BCAR ATS was based on ICAO's Annex 11, thirteen edition of July 2001; amendment 49 dated 14 November 2013.

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SECTION 1-REQUIREMENTS

Presentation and generalities

1 PRESENTATION

1.1 Section one of BCAR ATS is presented in double columns. Each page is identified by its edition or amendment date that was incorporated.

1.2 This section Font is arial 10.

2 INTRODUCTIÓN

2.1.1 This document contains the requirements for the development and applicability of the Air Traffic Services.

2.2 This document is based on ICAO's Annex 11 text, 49th amendment, 14 November 2013, issued and published by the International Civil Aviation Organization (ICAO).

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List of Acronyms:

ADS-B:	Automatic dependent surveillance-Broadcast
ADS-C:	Automatic dependent surveillance– contract
AFS:	Aeronautical fixed service
AMSL:	Above mean sea level
AIP:	Aeronautical information publication
ATC.	Air tarffic control
ATS:	Air traffic services
BDCA:	Belize Department of Civil Aviation
CAA:	Civil Aviation Authority
CPDLC:	Controller-pilot data link communications
CENAMER Control:	Centroamerica Control
COCESNA:	Corporación Centroamericana de Servicios de navegación Aérea
CRC:	Cyclic redundancy check
ETOPS:	Extended-Twin-Engine Operational Performance Standards
ft:	Feet
IEM:	Interpretative and explanatory material
IMC:	Instrument meteorological conditions
Kg:	Kilograms
Kt:	Knots
Km/h:	kilometers per hour
m:	meters
Mhz:	Megahertz
NM:	Nautical miles
PBN:	Performance Based Navigation

RCP:	Required communication performance
RNAV:	Area navigation
RNP:	Required navigation performance
RVR:	Runway visual range
RVSM:	Reduced vertical separation minimum
SMR:	Surface movement radar
SMS:	Safety Management System
SSR:	Secondary Surveillance Radar
VAAC:	Volcanic ash advisory center
VTOL:	vertical take-off and landing

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BCAR ATS
AIR TRAFFIC SERVICES

CHAPTER 1
DEFINITIONS

BCAR ATS 1.0

When the following terms are used in the Standards and Recommended Practices for Air Traffic Services, they have the following meanings:

Accepting unit. Air traffic control unit next to take control of an aircraft.

Accident. 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:

1) being in the aircraft, or

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

3) 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:

1) adversely affects the structural strength, performance or flight characteristics of the aircraft, and

2) 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 for 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.

An aircraft is considered to be missing when the official search has been terminated and the wreckage has not been located.
(See IEM ATS 1.0)

Accuracy. A degree of conformance between the estimated or measured value and the true value.
(See IEM ATS 1.0)

ADS-C agreement. A reporting plan which establishes the conditions of ADS-C data reporting (i.e. data required by the air traffic services unit and frequency of ADS-C reports which have to be agreed to prior to using ADS-C in the provision of air traffic services).
(See IEM ATS 1.0)

Advisory airspace. An airspace of defined dimensions, or designated route, within which air traffic advisory service is available.

Advisory route. A designated route along which air traffic advisory service is available.

Aerodrome. A defined area on land or water (including any buildings, installations and equipment) intended to be used either wholly or in part for the arrival, departure and surface movement of aircraft..

Aerodrome control service. Air traffic control service for aerodrome traffic.

Aerodrome control tower. A unit established to provide air traffic control service to aerodrome traffic.

Aerodrome traffic. All traffic on the manoeuvring area of an aerodrome and all aircraft flying in the vicinity of an aerodrome.
(See IEM ATS 1.0)

Aeronautical fixed service (AFS). A telecommunication service between specified fixed points provided primarily for the safety of air navigation and for the regular, efficient and economical operation of air services.

Aeronautical Information Publication (AIP). A publication issued by or with the authority of a State and containing aeronautical information of a lasting character essential to air navigation.

Aeronautical mobile service (RR S1.32). A mobile service between aeronautical stations and aircraft stations, or between aircraft stations, in which survival craft stations may participate; emergency position-indicating radio beacon stations may also participate in this service on designated distress and emergency frequencies.

Aeronautical telecommunication station. A station in the aeronautical telecommunication service.

Airborne collision avoidance system (ACAS). An aircraft system based on secondary surveillance radar (SSR) transponder signals which operates independently of groundbased equipment to provide advice to the pilot on potential conflicting aircraft that are equipped with SSR transponders.

Aircraft. 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.

Air-ground communication. Two-way communication between aircraft and stations or locations on the surface of the earth.

AIRMET information. 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 which was not already included in the forecast issued for low-level flights in the flight information region concerned or sub-area thereof.

Air-taxiing. Movement of a helicopter/VTOL above the surface of an aerodrome, normally in ground effect and at a ground speed normally less than 37 km/h (20 kt).

(See IEM ATS 1.0)

Air traffic. All aircraft in flight or operating on the manoeuvring area of an aerodrome.

Air traffic advisory service. A service provided within advisory airspace to ensure separation, in so far as practical, between aircraft which are operating on IFR flight plans.

Air traffic control clearance. Authorization for an aircraft to proceed under conditions specified by an air traffic control unit.
(See IEM ATS 1.0)

Air traffic control service. A service provided for the purpose of:

a) preventing collisions:

   1) between aircraft, and

   2) on the manoeuvring area between aircraft and obstructions; and

b) expediting and maintaining an orderly flow of air traffic.

Air traffic control unit. A generic term meaning variously, area control centre, approach control unit or aerodrome control tower.

Air traffic flow management (ATFM). A service established with the objective of contributing to a safe, orderly and expeditious flow of air traffic by ensuring that ATC capacity is utilized to the maximum extent possible and that the traffic volume is compatible with the capacities declared by the appropriate ATS authority.

Air traffic service. A generic term meaning variously, flight information service, alerting service, air traffic advisory service, air traffic control service (area control service, approach control service or aerodrome control service).

Air traffic services airspaces. Airspaces of defined dimensions alphabetically designated, within which specific types of flights may operate and for which air traffic services and rules of operation are specified.

Air traffic services reporting office. A unit established for the purpose of receiving reports concerning air traffic services and flight plans submitted before departure.
(See IEM ATS 1.0)

Air traffic services unit. A generic term meaning variously, air traffic control unit, flight information centre or air traffic services reporting office.

Airway. A control area or portion thereof established in the form of a corridor.

ALERFA. The code word used to designate an alert phase.

Alerting service. A service provided to notify appropriate organizations regarding aircraft in need of search and rescue aid, and assist such organizations as required.

Alert phase. A situation wherein apprehension exists as to the safety of an aircraft and its occupants.

Alternate aerodrome. 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,. Alternate aerodromes include the following:

Take-off alternate: An alternate aerodrome at which an aircraft would be able to land should this become necessary shortly after take-off and it is not possible to use the aerodrome of departure.

En-route alternate**:** An aerodrome at which an aircraft would be able to land in the event that a diversion becomes necessary while en route.

Destination alternate: 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.
(See IEM ATS 1.0)

Altitude. The vertical distance of a level, a point or an object considered as a point, measured from mean sea level.

Approach control service. Air traffic control service for arriving or departing controlled flights.

Approach control unit. A unit established to provide air traffic control service to controlled flights arriving at, or departing from, one or more aerodromes.

Appropriate ATS authority. The relevant authority designated by the State responsible for providing air traffic services in the airspace concerned.

Apron. A defined area, on a land aerodrome, intended to accommodate aircraft for purposes ofloading or unloading passengers, mail or cargo, fuelling, parking or maintenance.

Apron management service. A service provided to regulate the activities and the movement of aircraft and vehicles on an apron.

Area control centre. A unit established to provide air traffic control service to controlled flights in control areas under its jurisdiction.

Area control service. Air traffic control service for controlled flights in control areas.

Area navigation (RNAV). 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 these.
(See IEM ATS 1.0)

Area navigation route. An ATS route established for the use of aircraft capable of employing area navigation.

ATS route. A specified route designed for channelling the flow of traffic as necessary for the provision of air traffic services.
(See IEM ATS 1.0)

Automatic dependent surveillance — broadcast (ADS-B). A means by which aircraft, aerodrome vehicles and other objects can automatically transmit and/or receive data such as identification, position and additional data, as appropriate, in a broadcast mode via a data link.

Automatic dependent surveillance — contract (ADS-C). A means by which the terms of an ADS-C agreement will be exchanged between the ground system and the aircraft, via a data link, specifying under what conditions ADS-C reports would be initiated, and what data would be contained in the reports.
(See IEM ATS 1.0)

Automatic terminal information service (ATIS). The automatic provision of current, routine information to arriving and departing aircraft throughout 24 hours or a specified portion thereof:

Data link-automatic terminal information service (D-ATIS): The provision of ATIS via data link.

Voice-automatic terminal information service (Voice-ATIS): The provision of ATIS by means of continuous and repetitive voice broadcasts.

Base turn. A turn executed by the aircraft during the initial approach between the end of the outbound track and the beginning of the intermediate or final approach track. The tracks are not reciprocal.
(See IEM ATS 1.0)

Calendar. Discrete temporal reference system that provides the basis for defining temporal position to a resolution of one day (ISO 19108*).

Change-over point. The point at which an aircraft navigating on an ATS route segment defined by reference to very high frequency omnidirectional radio ranges is expected to transfer its primary navigational reference from the facility behind the aircraft to the next facility ahead of the aircraft.
(See IEM ATS 1.0)

Clearance limit. The point to which an aircraft is granted an air traffic control clearance.

Conference communications. Communication facilities whereby direct speech conversation may

be conducted between three or more locations simultaneously.

Control area. A controlled airspace extending upwards from a specified limit above the earth.

Controlled aerodrome. An aerodrome at which air traffic control service is provided to aerodrome traffic.
(See IEM ATS 1.0)

Controlled airspace. An airspace of defined dimensions within which air traffic control service is provided in accordance with the airspace classification.
(See IEM ATS 1.0)

Controlled flight. Any flight which is subject to an air traffic control clearance.

Controller-pilot data link communications (CPDLC). A means of communication between controller and pilot, using data link for ATC communications.

Control zone. A controlled airspace extending upwards from the surface of the earth to a specified upper limit.

Cruising level. A level maintained during a significant portion of a flight.

Cyclic redundancy check (CRC). A mathematical algorithm applied to the digital expression of data that provides a level of assurance against loss or alteration of data.

Danger area. An airspace of defined dimensions within which activities dangerous to the flight of aircraft may exist at specified times.

Data link communications. A form of communication intended for the exchange of messages via a data link.

Data quality. A degree or level of confidence that the data provided meets the requirements of the data user in terms of accuracy, resolution and integrity.

Datum. Any quantity or set of quantities that may serve as a reference or basis for the calculation of other quantities (ISO 19104*).

Declared capacity. A measure of the ability of the ATC system or any of its subsystems or operating positions to provide service to aircraft during normal activities. It is expressed as the number of aircraft entering a specified portion of airspace in a given period of time, taking due account of weather, ATC unit configuration, staff and equipment available, and any other factors that may affect the workload of the controller responsible for the airspace.

DETRESFA. The code word used to designate a distress phase.

Distress phase. A situation wherein there is reasonable certainty that an aircraft and its occupants are threatened by grave and imminent danger or require immediate assistance.

Downstream clearance. A clearance issued to an aircraft by an air traffic control unit that is not the current controlling authority of that aircraft.

Emergency phase. A generic term meaning, as the case may be, uncertainty phase, alert phase or distress phase.

Final approach. That part of an instrument approach procedure which commences at the specified final approach fix or point, or where such a fix or point is not specified,

a) at the end of the last procedure turn, base turn or inbound turn of a racetrack procedure, if specified; or

b) at the point of interception of the last track specified in the approach procedure; and ends at a point in the vicinity of an aerodrome from which:

1) a landing can be made; or

2) a missed approach procedure is initiated.

Flight crew member. A licensed crew member charged with duties essential to the operation of an aircraft during a flight duty period.

Flight information centre. A unit established to provide flight information service and alerting service.

Flight information region. An airspace of defined dimensions within which flight information service and alerting service are provided.

Flight information service. A service provided for the purpose of giving advice and information useful for the safe and efficient conduct of flights.

Flight level. A surface of constant atmospheric pressure which is related to a specific pressure datum, 1013.2 hectopascals (hPa), and is separated from other such surfaces by specific pressure intervals.
(See IEM ATS 1.0)

Flight plan. Specified information provided to air traffic services units, relative to an intended flight or portion of a flight of an aircraft.
(See IEM ATS 1.0)

Forecast. A statement of expected meteorological conditions for a specified time or period, and for a specified area or portion of airspace.

Geodetic datum. A minimum set of parameters required to define location and orientation of the local reference system with respect to the global reference system/frame.

Gregorian calendar. Calendar in general use; first introduced in 1582 to define a year that more closely approximates the tropical year than the Julian calendar (ISO 19108*).
(See IEM ATS 1.0)

Height. The vertical distance of a level, a point or an object considered as a point, measured from a specified datum.

Human Factors principles. Principles which apply to aeronautical design, certification, training, operations and maintenance and which seek safe interface between the human and other system components by proper consideration to human performance.

Human performance. Human capabilities and limitations which have an impact on the safety and efficiency of aeronautical operations.

IFR. The symbol used to designate the instrument flight rules.

IFR flight. A flight conducted in accordance with the instrument flight rules.

IMC. The symbol used to designate instrument meteorological conditions.

INCERFA. The code word used to designate an uncertainty phase.

Incident. An occurrence, other than an accident, associated with the operation of an aircraft which affects or could affect the safety of operation.
(See IEM ATS 1.0)

Instrument meteorological conditions (IMC). Meteorological conditions expressed in terms of visibility, distance from cloud, and ceiling, less than the minima specified for visual meteorological conditions.
(See IEM ATS 1.0)

Integrity (aeronautical data). A degree of assurance that an aeronautical data and its value has not been lost nor altered since the data origination or authorized amendment.

Integrity classification (aeronautical data). Classification based upon the potential risk resulting from the use of corrupted data. Aeronautical data is classified as:

a) routine data: there is a very low probability when using corrupted routine data that the continued safe flight and landing of an aircraft would be severely at risk with the potential for catastrophe;

b) essential data: there is a low probability when using corrupted essential data that the continued safe flight and landing of an aircraft would be severely at risk with the potential for catastrophe; and

c) critical data: there is a high probability when using corrupted critical data that the continued safe flight and landing of an aircraft would be severely at risk with the potential for catastrophe.

International NOTAM office. An office designated by a State for the exchange of NOTAM internationally.

Level. A generic term relating to the vertical position of an aircraft in flight and meaning variously, height, altitude or flight level.

Manoeuvring area. That part of an aerodrome to be used for the take-off, landing and taxiing of aircraft, excluding aprons.

Meteorological office. An office designated to provide meteorological service for international air navigation.

Movement area. That part of an aerodrome to be used for the take-off, landing and taxiing of aircraft, consisting of the manoeuvring area and the apron(s).

Navigation specification. A set of aircraft and flight crew requirements needed to support performance-based navigation operations within a defined airspace. There are two kinds of navigation specifications:

RNP specification. A navigation specification based on area navigation that includes the requirement for performance monitoring and alerting, designated by the prefix RNP, e.g. RNP 4, RNP APCH.

RNAV specification. A navigation specification based on area navigation that does not include the requirement for performance monitoring and alerting, designated by the prefix RNAV, e.g. RNAV 5, RNAV 1.
(See IEM ATS 1.0)

NOTAM. 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.

Obstacle. All fixed (whether temporary or permanent) and mobile objects, or parts thereof, that are located on an area intended for the surface movement of aircraft or that extend above a defined surface intended to protect aircraft in flight.

Operator. A person, organization or enterprise engaged in or offering to engage in an aircraft operation.

Performance-based navigation (PBN). Area navigation based on performance requirements for aircraft operating along an ATS route, on an instrument approach procedure or in a designated airspace.
(See IEM ATS 1.0)

Pilot-in-command. The pilot designated by the operator, or in the case of general aviation, the owner, as being in command and charged with the safe conduct of a flight.

Printed communications. Communications which automatically provide a permanent printed record at each terminal of a circuit of all messages which pass o such circuit.

Prohibited area. An airspace of defined dimensions, above the land areas or territorial waters of a State, within which the flight of aircraft is prohibited.

Radio navigation service. A service providing guidance information or position data for the efficient and safe operation of aircraft supported by one or more radio navigation aids.

Radiotelephony. A form of radiocommunication primarily intended for the exchange of information in the form of speech.

RCP type. A label (e.g. RCP 240) that represents the values assigned to RCP parameters for communication transaction time, continuity, availability and integrity.

Reporting point. A specified geographical location in relation to which the position of an aircraft can be reported.

Required communication performance (RCP). A statement of the performance requirements for operational communication in support of specific ATM functions.

Rescue coordination centre. A unit responsible for promoting efficient organization of search and rescue services and for coordinating the conduct of search and rescue operations within a search and rescue region.

Restricted area. An airspace of defined dimensions, above the land areas or territorial waters of a State, within which the flight of aircraft is restricted in accordance with certain specified conditions.

Runway. A defined rectangular area on a land aerodrome prepared for the landing and take-off of aircraft.

Runway visual range (RVR). 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.

Safety management system. A systematic approach to managing safety, including the necessary organizational structures, accountabilities, policies and procedures.

SIGMET information. 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.

Significant point. A specified geographical location used in defining an ATS route or the flight path of an aircraft and for other navigation and ATS purposes.

Special VFR flight. A VFR flight cleared by air traffic control to operate within a control zone in meteorological conditions below VMC.

Station declination. An alignment variation between the zero degree radial of a VOR and true north, determined at the time the VOR station is calibrated.

Taxiing. Movement of an aircraft on the surface of an aerodrome under its own power, excluding take-off and landing.

Terminal control area. A control area normally established at the confluence of ATS routes in the vicinity of one or more major aerodromes.

Track. The projection on the earth's surface of the path of an aircraft, the direction of which path at any point is usually expressed in degrees from North (true, magnetic or grid).

Traffic avoidance advice. Advice provided by an air traffic services unit specifying manoeuvres to assist a pilot to avoid a collision.

Traffic information. Information issued by an air traffic services unit to alert a pilot to other known or observed air traffic which may be in proximity to the position or intended route of flight and to help the pilot avoid a collision.

Transfer of control point. A defined point located along the flight path of an aircraft, at which the responsibility for providing air traffic control service to the aircraft is transferred from one control unit or control position to the next.

Transferring unit. Air traffic control unit in the process of transferring the responsibility for providing air traffic control service to an aircraft to the next air traffic control unit along the route of flight.

Uncertainty phase. A situation wherein uncertainty exists as to the safety of an aircraft and its occupants.

VFR. The symbol used to designate the visual flight rules.

VFR flight. A flight conducted in accordance with the visual flight rules.

Visual meteorological conditions (VMC). Meteorological conditions expressed in terms of visibility, distance from cloud, and ceiling, equal to or better than specified minima.

VMC. The symbol used to designate visual meteorological conditions.

Waypoint. A specified geographical location used to define an area navigation route or the flight path of an aircraft employing area navigation. Waypoints are identified as either:

Fly-by waypoint: A waypoint which requires turn anticipation to allow tangential interception of the next segment of a route or procedure, or

Flyover waypoint: A waypoint at which a turn is initiated in order to join the next segment of a route or procedure.

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SUBPART A
CHAPTER 2
GENERAL

BCAR ATS 2.01 Aplicability

The BCAR ATS will come into effect on the date of its approval.

BCAR ATS 2.02 Effectiveness

The effectiveness of the BCAR ATS 2.27 (safety management system) will come into effect on March 2012.

BCAR ATS 2.1 Establishment of authority

2.1.1 Air traffic services provisions

The air traffic services provider shall provide the air traffic services in the territories over which they have jurisdiction, those portions of the airspace and those aerodromes where air traffic services will be provided, and they shall thereafter arrange for such services to be established and provided in accordance with the provisions of this BCAR.
(See IEM ATS 2.1.1)

2.1.2 Air traffic services provisions over the high seas.

Those portions of the airspace over the high seas or in airspace of undetermined sovereignty where air traffic services will be provided shall be determined according to 2.1.1.

2.1.3 Authority responsable for establishing and providing ATS.

When it has been determined that air traffic services will be provided, the State of Belize shall designate the authority responsible for providing such services. The authority responsible for establishing and providing the services may be the State or a suitable organization.
(See IEM ATS 2.1.3)

2.1.4 Publication of the established services.

Where air traffic services are established, information shall be published as necessary to permit the utilization of such services.

BCAR ATS 2.2 Objectives of the air traffic services.

The traffic services provider shall:

a) prevent collisions between aircraft in the air;

b) prevent collisions between aircraft on the manoeuvring area and obstructions on that area;

c) expedite and maintain an orderly flow of air traffic;

d) provide advice and information useful for the safe and efficient conduct of flights;

e) notify appropriate organizations regarding aircraft in need of search and rescue aid, and assist such organizations as required.

BCAR ATS 2.3 Divisions of the air traffic services.

The air traffic services shall comprise three services identified as follows:

2.3.1 Air traffic services divisions:

The air traffic control service, to accomplish objectives a), b) and c) of BCAR ATS 2.2, this service being divided in three parts as follows:

a) Area control service: the provision of air traffic control service for controlled flights, except for those parts of such flights described in 2.3.1 b) and c), in order to accomplish objectives a) and c) of BCAR ATS 2.2;

b) Approach control service: the provision of air traffic control service for those parts of controlled flights associated with arrival or departure, in order to accomplish objectives a) and c) of BCAR ATS 2.2;

c) Aerodrome control service: the provision of air traffic control service for aerodrome traffic, except for those parts of flights described in 2.3.1 b), in order to accomplish objectives a), b) and c) of BCAR ATS 2.2.

2.3.2 Flight information service

The flight information service, to accomplish objective d) of BCAR ATS 2.2.

2.3.3 Alerting service

The alerting service, to accomplish objective e) of BCAR ATS 2.2.

BCAR ATS 2.4 Determination of the need for air traffic services

2.4.1 Elements to determine the need of the air traffic services.

The need for the provision of air traffic services shall be determined by consideration of the following:

a) the types of air traffic involved;

b) the density of air traffic;

c) the meteorological conditions;

d) such other factors as may be relevant.

(See IEM .ATS 2.4.1)

2.4.2 Determining air traffic services needs according to ACAS

The carriage of airborne collision avoidance systems (ACAS) by aircraft in a given area shall not be a factor in determining the need for air traffic services in that area.

BCAR ATS 2.5 Designation of the portions of the airspace and controlled aerodromes where air traffic services will be provided

2.5.1 Air space designation based on the services provided.

When it has been determined that air traffic services will be provided in particular portions of the airspace or at particular aerodromes, then those portions of the airspace or those aerodromes shall be designated in relation to the air traffic services that are to be provided.

2.5.2 Air spaces designation.

The designation of the particular portions of the airspace or the particular aerodromes shall be as follows:

2.5.2.1 Flight information regions

Those portions of the airspace where it is determined that flight information service and alerting service will be provided shall be designated as flight information regions.

2.5.2.2 Control areas and control zones

2.5.2.2.1 Control areas and control zones designation.

Those portions of the airspace where it is determined that air traffic control service will be provided to IFR flights shall be designated as control areas or control zones.
(See 2.10)

2.5.2.2.1.1 Air spaces clases B, C or D designation.

Those portions of controlled airspace wherein it is determined that air traffic control service will also be provided to VFR flights shall be designated as Classes B, C, or D airspace

2.5.2.2.2 Areas and control zones within the FIR

Where designated within the flight information region, control areas and control zones shall form part of that flight information region.

2.5.2.3 Controlled Aerodromes

Those aerodromes where it is determined that air traffic control service will be provided to aerodrome traffic shall be designated as controlled aerodromes.

BCAR ATS 2.6 Airspace classification

2.6.1 The air traffic service provider shall classify and designate ATS airspaces accordance with the following:

Class A: IFR flights only are permitted, all flights are provided with air traffic control service and are separated from each other.

Class B: IFR and VFR flights are permitted; all flights are provided with air traffic control service and are separated from each other.

Class C: IFR and VFR flights are permitted, all flights are provided with air traffic control service and IFR flights are separated from other IFR flights and from VFR flights. VFR flights are separated from IFR flights and receive traffic information in respect of other VFR flights.

Class D: IFR and VFR flights are permitted and all flights are provided with air traffic control service, IFR flights are separated from other IFR flights and receive traffic information in respect of VFR flights, VFR flights receive traffic information in respect of all other flights.

Class E: IFR and VFR flights are permitted; IFR flights are provided with air traffic control service and are separated from other IFR flights. All flights receive traffic information as far as is practical. Class E shall not be used for control zones.

Class F: IFR and VFR flights are permitted, all participating IFR flights receive an air traffic advisory service and all flights receive flight information service if requested. When air traffic advisory service is implemented, this shall be considered normally as a temporary measure only until such time as it can be replaced by air traffic control. (See PANS-ATM, Chapter 9.)

Class G: IFR and VFR flights are permitted and receive flight information service if requested.

2.6.2 Air space selection from the air traffic service provider.

The air traffic service provider shall select those airspace classes appropriate to their needs.

2.6.3 Requirements for flights within each class of airspace.
(See IEM ATS 2.6.3)

BCAR ATS 2.7 Performance-based navigation (PBN) operations

2.7.1 Navigation specifications prescribed by the BDCA.

In applying performance-based navigation, navigation specifications shall be comply by the air traffic service provider as prescribed by the BDCA. When applicable, the navigation specification(s) for designated areas, tracks or ATS routes shall be comply as the BDCA will prescribed on the basis of regional air navigation agreements. In designating a navigation specification, limitations may apply as a result of navigation infrastructure constraints or specific navigation functionality requirements.

2.7.2 Performance-based navigation operations

The air traffic service provider should implement as soon as practicable pereformance-based navigation operations.

2.7.3 Prescribed navigation specification

The prescribed navigation specification shall be appropriate to the level of communications, navigation and air traffic services provided in the airspace concerned.
(See IEM ATS 2.7.3)

BCAR ATS 2.8 Requiered Comunication Performance (RCP).

2.8.1 Prescription for RCP types

RCP types shall be comply by the air traffic service provider as prescribed by the BDCA. When applicable, the RCP type(s) shall be prescribed on the basis of regional air navigation agreements.

2.8.2 Appropiate RCP types for ATS.

The prescribed RCP type shall be appropriate to the air traffic services provided in the airspace concerned.
(See IEM ATS 2.8.2)

BCAR ATS 2.9 Establishment and designation of the units providing air traffic services

The air traffic services shall be provided by units established and designated as follows:

2.9.1 Establishment of Flight information centres.

Flight information centres shall be established to provide flight information service and alerting service within flight information regions, unless the responsibility of providing such services within a flight information region is assigned to an air traffic control unit having adequate facilities for the discharge of such responsibility. This does not preclude delegating to other units the function of providing certain elements of the flight information service.

2.9.2 Establishment of air traffic control units.

Air traffic control units shall be established to provide air traffic control service, flight information service and alerting service within control areas, control zones and at controlled aerodromes.
(See BCAR ATS 3.2)

BCAR ATS 2.10 Specifications for flight information regions, control areas and control zones.

2.10.1 Delineation of airspace
(See IEM ATS 2.10.1)

2.10.2 Flight information regions

2.10.2.1 Delineation of flight information regions.

Flight information regions shall be delineated to cover the whole of the air route structure to be served by such regions.

2.10.2.2 Lateral limits of a flight information region.

A flight information region shall include all airspace within its lateral limits, except as limited by an upper flight information region.

2.10.2.3 Upper and lower limit of a flight information region.

Where a flight information region is limited by an upper flight information region, the lower limit specified for the upper flight information region shall constitute the upper vertical limit of the flight information region and shall coincide with a VFR cruising level of the tables in Appendix BCAR ATS 2.9.2.3.
(See IEM ATS 2.10.2.3)

2.10.3 Control areas

2.10.3.1 Control areas delineation.

Control areas including, *inter alia,* airways and terminal control areas shall be delineated so as to encompass sufficient airspace to contain the flight paths of those IFR flights or portions thereof to which it is desired to provide the applicable parts of the air traffic control service, taking into account the capabilities of the navigation aids normally used in that area.
In a control area other than one formed by a system of airways, a system of routes may be established to facilitate the provision of air traffic control

2.10.3.2 Establishment of a lower limit for a control area.

A lower limit of a control area shall be established at a height above the ground or water of not less than 200 m (700 ft).
(See IEM ATS 2.10.3.2)

2.10.3.2.1 Establishment of a lower limit for a control area due to VFR flights.

The lower limit of a control area shall, when practicable and desirable in order to allow freedom of action for VFR flights below the control area, be established at a greater height than the minimum specified in 2.10.3.2.

2.10.3.2.2 Establishment of a lower limit for a control area above 900 metres.

When the lower limit of a control area is above 900 m (3 000 ft) MSL it shall coincide with a VFR cruising level of the table in Appendix BCAR ATS 2.9.2.3 of this regulations.

This implies that the selected VFR cruising level be such that expected local atmospheric pressure variations do not result in a lowering of this limit to a height of less than 200 m (700 ft) above ground or water.

2.10.3.3 Establishment of an upper limit for a control area.

An upper limit of a control area shall be established when either:

a) air traffic control service will not be provided above such upper limit; or

b) the control area is situated below an upper control area, in which case the upper limit shall coincide with the lower limit of the upper control area.

When established, such upper limit shall coincide with a VFR cruising level of the tables in Appendix BCAR ATS 2.9.2.3

2.10.4 Flight information regions or control areas in the upper airspace.
(See IEM ATS 2.10.4)

2.10.5 Control Zones

2.10.5.1 Establishment of the lateral limits of a control zone.

The lateral limits of control zones shall encompass at least those portions of the airspace, which are not within control areas, containing the paths of IFR flights arriving at and departing from aerodromes to be used under instrument meteorological conditions.
Aircraft holding in the vicinity of aerodromes are considered as arriving aircraft.

2.10.5.2 Establishment of the lateral limits of a control zone from an aerodrome.

The lateral limits of a control zone shall extend to at least 9.3 km (5 NM) from the centre of the aerodrome or aerodromes concerned in the directions from which approaches may be made.
A control zone may include two or more aerodromes situated close together.

2.10.5.3 Establishment of the upper limit of a control zone.

If a control zone is located within the lateral limits of a control area, it shall extend upwards from the surface of the earth to at least the lower limit of the control area.
An upper limit higher than the lower limit of the overlying control area may be established when desired.

2.10.5.4 Upper limit of a control zone out of a control area.

When a control zone is located outside of the lateral limits of a control area, an upper limit shall be established.

2.10.5.5 Upper limit of a control zone from a control area.

To establish the upper limit of a control zone at a level higher than the lower limit of the control area established above it, or if the control zone is located outside of the lateral limits of a control area, its upper limit shall be established at a level which can easily be identified by pilots. When this limit is above 900 m (3 000 ft) MSL it should coincide with a VFR cruising level of the tables in Appendix BCAR ATS 2.10.2.3**.**
(See IEM ATS 2.10.5.5)

BCAR ATS 2.11 Identification of air traffic services units and airspaces.

2.11.1 Identification of a control centre

An area control centre or flight information centre shall be identified by the name of a nearby town or city or geographic feature.

2.11.2 Identification of the control tower or approach control.

An aerodrome control tower or approach control unit shall be identified by the name of the aerodrome at which it is located.

2.11.3 Identification of the control zone, control area and FIR.

A control zone, control area or flight information region shall be identified by the name of the unit having jurisdiction over such airspace.

BCAR ATS 2.12 Establishment and identification of ATS routes.

2.12.1 Separation between adjacent ATS routes.

When ATS routes are established, a protected airspace along each ATS route and a safe spacing between adjacent ATS routes shall be provided.

2.12.2 Establishment of low-level special routes.

When warranted by density, complexity or nature of the traffic, special routes shall be established for use by low-level traffic, including helicopters operating to and from helidecks on the high seas. When determining the lateral spacing between such routes, account should be taken of the navigational means available and the navigation equipment carried on board helicopters.

2.12.3 Identification of ATS routes.

ATS routes shall be identified by designators.

2.12.4 Designators for ATS routes.

Designators for ATS routes other than standard departure and arrival routes shall be selected in accordance with the principles set forth in Appendix 1 of this regulation.

2.12.5 Standard departure and arrival routes identification

Standard departure and arrival routes and associated procedures shall be identified in accordance with the principles set forth in Appendix 3 of BCAR ATS.
(See IEM ATS 2.12.5)

BCAR ATS 2.13 Establishment of change-over points

2.13.1 Establishment of change over points distance.

The air traffic service provider shall establish change-over points on ATS route segments defined by reference to very high frequency omnidirectional radio ranges where this will assist accurate navigation along the route segments. The establishment of change-over points shall be limited to route segments of 110 km (60 NM) or more, except where the complexity of ATS routes, the density of navigation aids or other technical and operational reasons warrant the establishment of change-over points on shorter route segments.

2.13.2 Parameters on the establishment of change-over points

Unless otherwise established in relation to the performance of the navigation aids or frequency protection criteria, the change-over point on a route segment shall be the mid-point between the facilities in the case of a straight route segment or the intersection of radials in the case of a route segment which changes direction between the facilities.

BCAR ATS 2.14 Establishment and identification of significant points.

2.14.1 Establishment of significant points regarding progress of aircraft.

The air traffic services provider shall established significant points for the purpose of defining an ATS route or instrument approach procedure and/or in relation to the requirements of air traffic services for information regarding the progress of aircraft in flight.

2.14.2 Identification of significant points

Significant points shall be identified by designators.

2.14.3 Principles for establishing and identifying significant points.

Significant points shall be established and identified in accordance with the principles set forth in Appendix 2.
See appendix 2.

BCAR ATS 2.15 Establishment and identification of standard routes for taxiing aircraft.

2.15.1 Establishment of standard routes for taxiing on an aerodrome.

Where necessary, standard routes for taxiing aircraft shall be established on an aerodrome between runways, aprons and maintenance areas. Such routes shall be direct, simple and where practicable, designed to avoid traffic conflicts.

2.15.2 Identification of standard routes for taxiing aircraft.

Standard routes for taxiing aircraft shall be identified by designators distinctively different from those of the runways and ATS routes.

BCAR ATS 2.16 Coordination between the operator and air traffic services

2.16.1 ATS unit's responsabilities regarding operators needs.

The air traffic services provider in carrying out their objectives, shall have due regard for the requirements of the operators consequent on their obligations as specified in Annex 6, and, if so required by the operators, shall make available to them or their designated representatives such information as may be available to enable them or their designated representatives to carry out their responsibilities.

2.16.2 Aircraft position information to the operator.

When so requested by an operator, messages (including position reports) received by air traffic services units and relating to the operation of the aircraft for which operational control service is provided by that operator shall, so far as practicable, be made available immediately to the operator or a designated representative in accordance with locally agreed procedures.

BCAR ATS 2.17 Coordination between military authorities and air traffic services

2.17.1 Cooperation between ATS provider and military authorities

Air traffic services authorities shall establish and maintain close cooperation with military authorities responsible for activities that may affect flights of civil aircraft.

2.17.2 Activities potentially hazardous to civil aircraft

Coordination of activities potentially hazardous to civil aircraft shall be effected in accordance with BCAR ATS 2.18.

2.17.3 Exchanged information between ATS units and military units.

Arrangements shall be made to permit information relevant to the safe and expeditious conduct of flights of civil aircraft to be promptly exchanged between air traffic services units and appropriate military units.

2.17.3.1 Provide information to military units.

The air traffic services provider shall, either routinely or on request, in accordance with locally agreed procedures, provide appropriate military units with pertinent flight plan and other data concerning flights of civil aircraft. In order to eliminate or reduce the need for interceptions, air traffic services authorities shall designate any areas or routes where the requirements of Annex 2 concerning flight plans, two-way communications and position reporting apply to all flights to ensure that all pertinent data is available in appropriate air traffic services units specifically for the purpose of facilitating identification of civil aircraft.

2.17.3.2 Establishment of special procedures.

Special procedures shall be established in order to ensure that:

a) air traffic services units shall be notified if a military unit observes that an aircraft which is, or might be, a civil aircraft is approaching, or has entered, any area in which interception might become necessary;

b) all possible efforts are made to confirm the identity of the aircraft and to provide it with the navigational guidance necessary to avoid the need for interception.

BCAR ATS 2.18 Coordination of activities potentially hazardous to civil aircraft

2.18.1 Arrangements for activities potentially hazardous to civil aircraft.

The arrangements for activities potentially hazardous to civil aircraft, whether over the territory of a State or over the high seas shall be coordinated with the appropriate air traffic services authorities. The coordination shall be effected early enough to permit timely promulgation of information regarding the activities in accordance with the provisions of BCAR 15.

2.18.1.1 Coordination of potentially hazardous activities for aircraft with the appropiate ATS authority.

If the appropriate ATS authority is not that of the State where the organization planning the activities is located, initial coordination shall be effected through the ATS authority responsible for the airspace over the State where the organization is located.

2.18.2 Objective of the coordination of potentially hazardous activities.
(See IEM ATS 2.18.2)

2.18.2.1 Criteria for the coordination of potentially hazardous activities.

In determining these arrangements the following shall be applied:

a) the locations or areas, times and durations for the activities shall be selected to avoid closure or realignment of established ATS routes, blocking of the most economic flight levels, or delays of scheduled aircraft operations, unless no other options exist;

b) the size of the airspace designated for the conduct of the activities shall be kept as small as possible;

c) direct communication between the appropriate air traffic services unit and the organization or unit conducting the activities should be provided for use in the event that civil aircraft emergencies or other unforeseen circumstances require discontinuation of the activities.

2.18.3 Publication of potentially hazardous activities.

The Air traffic services provider shall be responsible for initiating the promulgation of information regarding the potentially hazardous activities.

2.18.4 Activities potentially hazardous to civil aircraft taken place on the daily basis.

If activities potentially hazardous to civil aircraft take place on a regular or continuing basis, special committees shall be established as required to

ensure that the requirements of all parties concerned are adequately coordinated.

2.18.5 Hazardous effects of laser beams in flight operations.

The air traffic services provider shall take adequate steps to prevent emission of laser beams from adversely affecting flight operations.
(See IEM ATS 2.18.5)

2.18.6 Added airspace capacity

The air traffic services provider in order to provide added airspace capacity and to improve efficiency and flexibility of aircraft operations shall establish procedures providing for a flexible use of airspace reserved for military or other special activities. The procedures should permit all airspace users to have safe access to such reserved airspace.

BCAR ATS 2.19 Aeronautical data

2.19.1 Determination and reporting of aeronautical data

The air traffic services provider shall make sure that determination and reporting of air traffic services related aeronautical data shall be in accordance with the accuracy and integrity requirements set forth in Tables 1 to 5 contained in Appendix 4 while taking into account the established quality system procedures. Accuracy requirements for aeronautical

data are based upon a 95 per cent confidence level, and in that respect three types of positional data shall be identified: surveyed points (e.g. navigation aids positions), calculated points (mathematical calculations from the known surveyed points of points in space/fixes) and declared points (e.g. flight information region boundary points).
(See IEM ATS 2.19.1)

2.19.2 Integrity of aeronautical data.

The air traffic services provider shall ensure that integrity of aeronautical data is maintained throughout the data process from survey/origin to the next intended user. Based on the applicable integrity classification, the validation and verification procedures should:

a) for routine data: avoid corruption throughout the processing of the data;

b) for essential data: assure corruption does not occur at any stage of the entire process and may include additional processes as needed to address potential risks in the overall system architecture to further assure data integrity at this level; and

c) for critical data: assure corruption does not occur at any stage of the entire process and include additional integrity assurance procedures to fully mitigate the effects of faults identified by thorough analysis of the overall system architecture as potential data integrity risks.

2.19.3 Protection of electronic aeronautical data.

Electronic aeronautical data sets, shall be protected by the inclusion in the data sets of a 32-bit cyclic redundancy check (CRC) implemented by the application dealing with the data sets. This shall apply to the protection of all integrity levels of data sets as specified in 2.19.2.

2.19.4 Determining and reporting WGS-84 coordinates to AIS.

Geographical coordinates indicating latitude and longitude shall be determined and reported by the air traffic services provider to the aeronautical information services authority in terms of the World Geodetic System — 1984 (WGS-84) geodetic reference datum, identifying those geographical coordinates which have been transformed into WGS-84 coordinates by mathematical means and whose accuracy of original field work does not meet the requirements in Appendix 4, Table 1.

2.19.5 Accuracy of the topographic work.

The order of accuracy of the field work and determinations and calculations derived therefrom shall be such that the resulting operational navigation data for the phases of flight will be within the maximum deviations, with respect to an appropriate reference frame, as indicated in the tables contained in Appendix 4.
(See IEM ATS 2.19.6)

BCAR ATS 2.20 Coordination between meteorological and air traffic services authorities.

2.20.1 Arrangements between meteorological and air traffic services personnel.

To ensure that aircraft receive the most up-to-date meteorological information for aircraft operations, arrangements shall be made between meteorological and air traffic services authorities for air traffic services personnel:

a) in addition to using indicating instruments, to report, if observed by air traffic services personnel or communicated by aircraft, such other meteorological elements as may be agreed upon;

b) to report as soon as possible to the associated meteorological office meteorological phenomena of operational significance, if observed by air traffic services personnel or communicated by aircraft, which have not been included in the aerodrome meteorological report;

c) to report as soon as possible to the associated meteorological office pertinent information concerning pre-eruption volcanic activity, volcanic eruptions and information concerning volcanic ash cloud. In addition, area control centres and flight information centres shall report the information to the associated

meteorological watch office and volcanic ash advisory centres (VAACs).
(See IEM ATS 2.20.1) y (BCAR ATS 4.2.3)

2.20.2 Inclusion of volcanic ash information in NOTAM and SIGMET messages.

Close coordination shall be maintained between area control centres, flight information centres and associated meteorological watch offices to ensure that information on volcanic ash included in NOTAM and SIGMET messages is consistent.

BCAR ATS 2.21 Coordination between aeronautical information services and air traffic services authorities

2.21.1 Agreements between aeronautical information services and air traffic services.

To ensure that aeronautical information services units obtain information to enable them to provide up-to-date pre-flight information and to meet the need for in-flight information, arrangements shall be made between aeronautical information services and air traffic services authorities responsible for air traffic services to report to the responsible aeronautical information services unit, with a minimum of delay:

a) information on aerodrome conditions;

b) the operational status of associated facilities, services and navigation aids within their area of responsibility;

c) the occurrence of volcanic activity observed by air traffic services personnel or reported by aircraft; and

d) any other information considered to be of operational significance.

2.21.2 Precise coordination prior introducing changes to the air navigation system.

Before introducing changes to the air navigation system, due account shall be taken by the services responsible for such changes of the time needed by the aeronautical information service for the preparation, production and issuance of relevant material for promulgation. To ensure timely provision of the information to the aeronautical information service, close coordination between those services concerned is therefore required.

2.21.3 Aeronautical Information Regulation and Control (AIRAC)

Of particular importance are changes to aeronautical information that affect charts and/or computer-based navigation systems which qualify to be notified by the Aeronautical Information Regulation and Control (AIRAC) system, as specified in BCAR 15, Chapter 6. The air traffic service personnel shall comply with the predetermined, internationally agreed AIRAC effective dates in addition to 14 days postage time shall be observed by the responsible air traffic services when submitting the raw information/data to aeronautical information services.

2.21.4 Responsability of the air traffic services for the provision of raw aeronautical information.

The air traffic services responsible for the provision of raw aeronautical information/data to the aeronautical information services shall do so while taking into account accuracy and integrity requirements for aeronautical data as specified in Appendix 4 to this BCAR. AIRAC information shall be distributed by the aeronautical information service at least 42 days in advance of the AIRAC effective dates with the objective of reaching recipients at least 28 days in advance of the effective date.
(See IEM ATS 2.21.4)

BCAR ATS 2.22 Minimum flight altitudes.

Minimum flight altitudes shall be determined and promulgated by the air traffic services provider for each ATS route and control area over its territory, which will required a BDCA approval.
(See IEM ATS 2.22)

BCAR ATS 2.23 Service to aircraft in the event of an emergency

2.23.1 Maximum consideration to aircraft in emergency.

The air traffic services provider shall be given maximum consideration, assistance and priority

over other aircraft as may be necessitated by the circumstances to an aircraft known or believed to be in a state of emergency, including being subjected to unlawful interference, To indicate that it is in a state of emergency, an aircraft equipped with an appropriate data link capability and/or an SSR transponder might operate the equipment as follows:

a) on Mode A, Code 7700; or

b) on Mode A, Code 7500, to indicate specifically that it is being subjected to unlawful interference; and/or

c) activate the appropriate emergency and/or urgency capability of ADS-B or ADS-C; and/or

d) transmit the appropriate emergency message via CPDLC.

2.23.1.1 Human factors in case of emergency.

Human Factors principles shall be observed in communications between ATS units and aircraft in the event of an emergency.
(See IEM ATS 2.23.1.1)

2.23.2 Unlawful interference

When an occurrence of unlawful interference with an aircraft takes place or is suspected, ATS units

shall attend promptly to requests by the aircraft. Information pertinent to the safe conduct of the flight shall continue to be transmitted and necessary action shall be taken to expedite the conduct of all phases of the flight, especially the safe landing of the aircraft

2.23.3 Informing of an unlawful interference

When an occurrence of unlawful interference with an aircraft takes place or is suspected, ATS units shall, in accordance with locally agreed procedures, immediately inform the appropriate authority designated by the State and exchange necessary information with the operator or its designated representative
(See IEM ATS 2.23.3)

BCAR ATS 2.24 In-flight contingencies

2.24.1 Strayed or unidentified aircraft
(See IEM ATS 2.24.1)

2.24.1.1 Asistance to strayed aircrafts.

As soon as an air traffic services unit becomes aware of a strayed aircraft it shall take all necessary steps as outlined in 2.24.1.1.1 and 2.24.1.1.2 to assist the aircraft and to safeguard its flight. The air traffic services unit shall provide navigational assistance if the unit becomes aware of an aircraft straying, or about to stray, into an area where there is a risk of interception or other hazard to its safety.

2.24.1.1.1 Aircraft's position is not known.

If the aircraft's position is not known, the air traffic services unit shall:

a) attempt to establish two-way communication with the aircraft, unless such communication already exists;

b) use all available means to determine its position;

c) inform other ATS units into whose area the aircraft may have strayed or may stray, taking into account all the factors which may have affected the navigation of the aircraft in the circumstances;

d) inform, in accordance with locally agreed procedures, appropriate military units and provide them with pertinent flight plan and other data concerning strayed aircraft;

e) request from the units referred to in c) and d) and from other aircraft in flight every assistance in establishing communication with the aircraft and determining its position

The requirements in d) and e) apply also to ATS units informed in accordance with c).

2.24.1.1.2 When Aircraft's position is established

When the aircraft's position is established, the air traffic services unit shall:

a) advise the aircraft of its position and corrective action to be taken; and

b) provide, as necessary, other ATS units and appropriate military units with relevant information concerning the strayed aircraft and any advice given to that aircraft.

2.24.1.2 Procedure for unidentified aircraft.

As soon as an air traffic services unit becomes aware of an unidentified aircraft in its area, it shall endeavour to establish the identity of the aircraft whenever this is necessary for the provision of air traffic services or required by the appropriate military authorities in accordance with locally agreed procedures. To this end, the air traffic services unit shall take such of the following steps as are appropriate in the circumstances:

a) attempt to establish two-way communication with the aircraft;

b) inquire of other air traffic services units within the flight information region about the flight and request their assistance in establishing two-way communication with the aircraft;

c) inquire of air traffic services units serving the adjacent flight information regions about the flight and request their assistance in establishing two-way communication with the aircraft;

d) attempt to obtain information from other aircraft in the area.

2.24.1.2.1 Informing the civil or military unit.

The air traffic services unit shall, as necessary, inform the appropriate military unit as soon as the identity of the aircraft has been established

2.24.1.3 Informing about strayed or unidentified aircraft.

When the ATS unit considers that a strayed or unidentified aircraft may be the subject of unlawful interference, the appropriate authority designated by the State shall immediately be informed, in accordance with locally agreed procedures.

2.24.2 Interception of civil aircraft

2.24.2.1 Appropiate ATS steps when an aircraft is being intercepted.

As soon as an air traffic services unit learns that an aircraft is being intercepted in its area of responsibility, it shall take such of the following steps as are appropriate in the circumstances:

a) attempt to establish two-way communication with the intercepted aircraft via any means available, including the emergency radio frequency 121.5 MHz, unless such communication already exists;

b) inform the pilot of the intercepted aircraft of the interception;

c) establish contact with the intercept control unit maintaining two-way communication with the intercepting aircraft and provide it with available information concerning the aircraft;

d) relay messages between the intercepting aircraft or the intercept control unit and the intercepted aircraft, as necessary;

e) in close coordination with the intercept control unit take all necessary steps to ensure the safety of the intercepted aircraft;

f) inform ATS units serving adjacent flight information regions if it appears that the aircraft has strayed from such adjacent flight information regions.

2.24.2.2 Intercepted aircraft out of the ATS area of responsibility.

As soon as an air traffic services unit learns that an aircraft is being intercepted outside its area of responsibility, it shall take such of the following steps as are appropriate in the circumstances:

a) inform the ATS unit serving the airspace in which the interception is taking place, providing this unit with available information that will assist in identifying the aircraft and requesting it to take action in accordance with 2.24.2.1;

b) relay messages between the intercepted aircraft and the appropriate ATS unit, the intercept control unit or the intercepting aircraft

BCAR ATS 2.25 Time in air traffic services

2.25.1 Use Coordinated Universal Time (UTC).

Air traffic services units shall use Coordinated Universal Time (UTC) and shall express the time in hours and minutes and, when required, seconds of the 24-hour day beginning at midnight.

2.25.2 Clocks in the air traffic services units.

Air traffic services units shall be equipped with clocks indicating the time in hours, minutes and seconds, clearly visible from each operating position in the unit concerned.

2.25.3 Clocks tolerance and verification.

Air traffic services unit clocks and other timerecording devices shall be checked as necessary to ensure correct time to within plus or minus 30 seconds of UTC. When data link

communications are utilized by an air traffic services unit, clocks and other time-recording devices shall be checked as necessary to ensure correct time to within 1 second of UTC.

2.25.4 Standard time station.

The correct time shall be obtained from a standard time station or, if not possible, from another unit which has obtained the correct time from such station.

2.25.5 Provide pilots with the correct time.

Aerodrome control towers shall, prior to an aircraft taxiing for take-off, provide the pilot with the correct time, unless arrangements have been made for the pilot to obtain it from other sources. Air traffic services units shall, in addition, provide aircraft with the correct time on request. Time checks shall be given to the nearest half minute.

BCAR ATS 2.26 Establishment of requirements for carriage and operation of pressure-altitude reporting transponders

The air traffic services provider shall establish requirements for carriage and operation of pressure-altitude reporting transponders within defined portions of airspace. With this provision the effectiveness of air traffic services will improve as well as airborne collision avoidance systems

BCAR ATS 2.27 Safety management

2.27.1 Establishment of a Safety Management System (SMS)

The air traffic services provider shall implement a safety management system acceptable to the State that, as a minimum:

a) identifies safety hazards;

b) safety risk management;

c) ensures the implementation of remedial action necessary to maintain agreed safety performance,

d) provides for continuous monitoring and regular assessment of the safety performance; and

e) aims to a continuous improvement of the overall performance of the safety management system.

2.27.2 Lines of safety accountability throughout the air traffic services provider

A safety management system shall clearly define lines of safety accountability throughout the air traffic services provider, including a direct accountability for safety on the part of senior management.
(See IEM ATS 2.27.2)

2.27.3 Significant safety-related changes to the ATS

Any significant safety-related change to the ATS system, including the implementation of a reduced separation minimum or a new procedure, shall only be effected after a safety assessment has demonstrated that an acceptable level of safety will

be met and users have been consulted. The air traffic services provider shall ensure that adequate provision is made for post-implementation monitoring to verify that the defined level of safety continues to be met.
(See IEM ATS 2.27.3)

BCAR ATS 2.28 Common reference systems

2.28.1 Horizontal reference system

The air traffic services provider shall use the World Geodetic System — 1984 (WGS-84) as the horizontal (geodetic) reference system for air navigation. Reported aeronautical geographical coordinates (indicating latitude and longitude) shall be expressed in terms of the WGS-84 geodetic reference datum.
(See IEM ATS 2.28.1)

2.28.2 Vertical reference system

Mean sea level (MSL) datum, which gives the relationship of gravity-related height (elevation) to a surface known as the geoid, shall be used by the air traffic services provider as the vertical reference system for air navigation
(See IEM ATS 2.28.2)

2.28.3 Temporal reference system

2.28.3.1 Temporal reference system for air navigation.

The Gregorian calendar and Coordinated Universal Time (UTC) shall be used by the air traffic services provider as the temporal reference system for air navigation.

2.28.3.2 Different Temporal reference system

When a different temporal reference system is used by the air traffic services provider, this shall be indicated in GEN 2.1.2 of the Aeronautical Information Publication (AIP).

BCAR ATS 2.29 Language proficiency

2.29.1 Language used in radiotelephony communications

An air traffic services provider shall ensure that air traffic controllers speak and understand the language used for radiotelephony communications as specified in BCAR APL.

2.29.2 Languages between ATS units.

Except when communications between air traffic control units are conducted in a mutually agreed language, the English language shall be used for such communications

BCAR ATS 2.30 Contingency arrangements

2.30.1 Contingency plan development

The Air traffic services provider shall develop and promulgate contingency plans for implementation in the event of disruption, or potential disruption, of air traffic services and related supporting services in the airspace for which they are responsible for the provision of such services. Such contingency plans shall be developed with the assistance of ICAO as necessary, in close coordination with the air traffic services authorities responsible for the provision of services in adjacent portions of airspace and with airspace users concerned.
(See IEM ATS 2.30.1)

BCAR ATS 2.31 ATS Quality Assurance Programme

The air traffic services provider shall develop and implement a quality assurance programme, which should be approved by the BDCA.
(See IEM ATS 2.31)

BCAR ATS 2.32 ATS Operational Procedures Manual

The air traffic service provider shall develop and implement an Operational Procedures Manual, which should be approved by the BDCA.
(See IEM ATS 2.32)

BCAR ATS 2.33 Meteorological conditions for aerodrome control service

The air traffic service provider shall not provide aerodrome control service when meteorological conditions are below IMC minimums.

BCAR ATS 2.34 Incident and accident notification

The air traffic service provider shall notify the BDCA when an incident or accident happens; this notification must be done within 24 hours after the event had happen. The following information shall be included as a minimum:

a) Type of incident (AIRPROX, procedure or installation),

b) Aircraft identification,

c) Time and place of the incident,

d) Brief explanation of the incident

BCAR ATS 2.35 License and medical certificate

The air traffic service provider shall ensure that all air traffic controllers hold their license and medical certificate while providing the service.

BCAR ATS 2.36 Identification and delineation of prohibited, restricted and danger areas

2.36.1 Identification of the areas

Each prohibited area, restricted area, or danger area established by a State shall, upon initial establishment, be given an identification and full details shall be promulgated.
(See IEM ATS 2.36.1)

2.36.2 Identifying the area

The identification so assigned shall be used to identify the area in all subsequent notifications pertaining to that area.

2.36.3 Composing the identification of the area

The identification shall be composed of a group of letters and figures as follows:

a) nationality letters for location indicators assigned to the State or territory which has established the airspace;

b) a letter P for prohibited area, R for restricted area and D for danger area as appropriate; and

c) a number, unduplicated within the State or territory concerned.
(See IEM ATS 2.36.1)

2.36.4 Avoiding confusion of the areas

To avoid confusion, identification numbers shall not be reused for a period of at least one year after cancellation of the area to which they refer.

2.36.5 Size of the areas

When a prohibited, restricted or danger area is established, the area shall be as small as practicable and be contained within simple geometrical limits, so as to permit ease of reference by all concerned.

BCAR ATS 2.37 Safety Reviews

2.37.1 Conducting safety reviews

The ATS provider shall conduct on regular and systematic basis safety reviews of the ATS units, which shall be conducted:

a) at least once a year, and

b) by personnel qualified through training, experience and expertise, and having a full understanding of the BCARs related to air navigation services, relevant SARPs, PANS, safe operating practices and Human Factors principles.

2.37.2 Safety reviews scope

The scope of the safety reviews shall include at least the following:

a) regulatory issues,

b) operational and technical issues, and

c) licensing and training issues.

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SUBPART B
CHAPTER 3
AIR TRAFFIC CONTROL SERVICE

BCAR ATS 3.1 Application

The air traffic services provider shall provide air traffic control services:

a) to all IFR flights in airspace Classes A, B, C, D and E;

b) to all VFR flights in airspace Classes B, C and D;

c) to all special VFR flights;

d) to all night VFR flights;

e) to all aerodrome traffic at controlled aerodromes

BCAR ATS 3.2 Provision of air traffic control service

The parts of air traffic control service described in 2.3.1 shall be provided by the air traffic service provider units as follows:

a) Area control service:

1) by an area control centre; or

2) by the unit providing approach control service in a control zone or in a control area of limited extent which is designated primarily for the provision of approach control service and where no area control centre is established.

b) Approach control service:

1) by an aerodrome control tower or area control centre when it is necessary or desirable to combine under the responsibility of one unit the functions of the approach control service with those of the aerodrome control service or the area control service;

2) by an approach control unit when it is necessary or desirable to establish a separate unit.

c) Aerodrome control service: by an aerodrome control tower.

(See IEM ATS 3.2)

BCAR ATS 3.3 Operation of air traffic control service

3.3.1 Availlable information for the air traffic service provider

The air traffic service provider in order to provide air traffic control service shall:

a) be provided with information on the intended movement of each aircraft, or variations therefrom, and with current information on the actual progress of each aircraft;

b) determine from the information received, the relative positions of known aircraft to each other;

c) issue clearances and information for the purpose of preventing collision between aircraft under its control and of expediting and maintaining an orderly flow of traffic;

d) coordinate clearances as necessary with other units:

1) whenever an aircraft might otherwise conflict with traffic operated under the control of such other units;

2) before transferring control of an aircraft to such other units.

3.3.2 Information on aircraft movements.

Information on aircraft movements, together with a record of air traffic control clearances issued to such aircraft, shall be so displayed as to permit ready analysis in order to maintain an efficient flow of air traffic with adequate separation between aircraft

3.3.3 Devices that record background communication and the aural environment at air traffic controller work stations

Air traffic control units shall be equipped with devices that record background communication and the aural environment at air traffic controller work stations,

capable of retaining the information recorded during at least the last twenty-four hours of operation.
(See IEM ATS 3.3.3)

3.3.4 Clearances to provide separation.

Clearances issued by air traffic control units shall provide separation:

a) between all flights in airspace Classes A and B;

b) between IFR flights in airspace Classes C, D and E;

c) between IFR flights and VFR flights in airspace Class C;

d) between IFR flights and special VFR flights;

e) between special VFR flights when so prescribed by the appropriate ATS authority,

except that, when requested by an aircraft and if so prescribed by the appropriate ATS authority for the cases listed under b) above in airspace Classes D and E, a flight may be cleared without separation being so provided in respect of a specific portion of the flight conducted in visual meteorological conditions.

3.3.5 Separation methods

Separation by an air traffic control unit shall be obtained by at least one of the following:

a) vertical separation, obtained by assigning different levels selected from:

1) the appropriate table of cruising levels in Appendix BCAR ATS 2.9.2.3,

(Appendix BCAR ATS 2.9.2.3)

b) horizontal separation, obtained by providing:

1) longitudinal separation, by maintaining an interval between aircraft operating along the same, converging or reciprocal tracks, expressed in time or distance; or

2) lateral separation, by maintaining aircraft on different routes or in different geographical areas;

c) composite separation, consisting of a combination of vertical separation and one of the other forms of separation contained in b) above, using minima for each which may be lower than, but not less than half of, those used for each of the combined elements when applied individually. Composite separation shall only be applied on the basis of regional air navigation agreements.

(See IEM ATS 3.3.5)

3.3.5.1 Establishment of a program in RVSM airspace.

For the airspace where a reduced vertical separation minimum of 300 m (1 000 ft) is applied between FL 290 and FL 410 inclusive, a programme shall be instituted, on a regional basis, for monitoring the height-keeping performance of aircraft operating at these levels, in order to ensure that the implementation and continued application of this vertical separation minimum meets the safety objectives. The coverage of the height-monitoring facilities provided under this programme shall be adequate to permit monitoring of the relevant aircraft types of all operators that operate in RVSM airspace.
(See IEM ATS 3.3.5.1)

3.3.5.2 Sharing data from monitoring programmes.

The air traffic services provider shall make arrangements through interregional agreement, for the sharing between regions of data from monitoring programmes.
(See IEM ATS 3.3.5.2)

BCAR ATS 3.4 Separation minima

3.4.1 Selection of separation minima

The air traffic services provider shall select the separation minima for application within a given portion of airspace as follows:

a) the separation minima shall be selected from those prescribed by the provisions of the PANS-ATM and the Regional Supplementary

Procedures as applicable under the prevailing circumstances except that, where types of aids are used or circumstances prevail which are not covered by current ICAO provisions, other separation minima shall be established as necessary by:

1) the appropriate ATS authority, following consultation with operators, for routes or portions of routes contained within the sovereign airspace of a State;

2) regional air navigation agreements for routes or portions of routes contained within airspace over the high seas or over areas of undetermined sovereignty or where the air traffic control services have been delegated to Central America Control (CENAMER), organization that belongs to the Central American Corporation of Air Navigation Services (COCESNA).

b) the selection of separation minima shall be made in consultation between the appropriate ATS authorities responsible for the provision of air traffic services in neighbouring airspace when:

1) traffic will pass from one into the other of the neighbouring airspaces;

2) routes are closer to the common boundary of the neighbouring airspaces than the separation minima applicable in the circumstances. This provision is to ensure, in the first case, compatibility on both sides of the line of transfer of traffic, and, in the other case, adequate separation between aircraft operating on both sides of the common boundary.

3.4.2 Notification of selected separation minima.

The air traffic services provider shall notify details of the selected separation minima and of their areas of application:

a) to the ATS units concerned; and

b) to pilots and operators through aeronautical information publications, where separation is based on the use by aircraft of specified navigation aids or specified navigation techniques.

BCAR ATS 3.5 Responsibility for control

3.5.1 Responsibility for control of individual flights

A controlled flight shall be under the control of only one air traffic control unit at any given time.

3.5.2 Responsibility for control within a given block of airspace

Responsibility for the control of all aircraft operating within a given block of airspace shall be vested in a single air traffic control unit. However, control of an aircraft or groups of aircraft may be delegated to other air traffic control units provided that coordination between all air traffic control units concerned is assured.

BCAR ATS 3.6 Transfer of responsability for control

3.6.1 Place or time of transfer

The responsibility for the control of an aircraft shall be transferred from one air traffic control unit to another as follows:

3.6.1.1 Between two units providing area control service.

The responsibility for the control of an aircraft shall be transferred from an unit providing area control service in a control area to the unit providing area control service in an adjacent control area at the time of crossing the common control area boundary as estimated by the area control centre having control of the aircraft or at such other point or time as has been agreed in a letter of agreement between the two units.

3.6.1.2 Between an unit providing area control service and a unit providing approach control service

The responsibility for the control of an aircraft shall be transferred from an unit providing area control service to a unit providing approach control service, and vice

versa, at a point or time agreed in a letter of agreement between the two units.

3.6.1.3 Between a unit providing approach control service and an aerodrome control tower

3.6.1.3.1 Arriving aircraft

The responsibility for the control of an arriving aircraft shall be transferred from the unit providing approach control service to the aerodrome control tower, when the aircraft:

a) is in the vicinity of the aerodrome, and:

1) it is considered that approach and landing will be completed in visual reference to the ground, or

2) it has reached uninterrupted visual meteorological conditions, or

b) is at a prescribed point or level, as specified in letters of agreement or ATS unit instructions; or

c) has landed.

(See IEM ATS 3.6.1.3.1)

3.6.1.3.2 Departing aircraft

The responsibility for control of a departing aircraft shall be transferred from the aerodrome control tower to the unit providing approach control service:

a) when visual meteorological conditions prevail in the vicinity of the aerodrome:

1) prior to the time the aircraft leaves the vicinity of the aerodrome, or

2) prior to the aircraft entering instrument meteorological conditions, or

3) at a prescribed point or level,

as specified in letters of agreement or ATS unit instructions;

b) when instrument meteorological conditions prevail at the aerodrome:

1) immediately after the aircraft is airborne, or

2) at a prescribed point or level,

as specified in letters of agreement or ATS unit instructions.

(See IEM ATS 3.6.1.3.1)

3.6.1.4 Between control sectors/positions within the same air traffic control unit

The responsibility for control of an aircraft shall be transferred from one control sector/position to another control sector/position within the same air traffic control unit at a point, level or time, as specified in ATS unit instructions.

3.6.2 Coordination of transfer

3.6.2.1 Transfering traffic without consent

Responsibility for control of an aircraft shall not be transferred from one air traffic control unit to another without the consent of the accepting control unit, which shall be obtained in accordance with 3.6.2.2, 3.6.2.2.1, 3.6.2.2.2 and 3.6.2.3.

3.6.2.2 Communicating current flight plan

The transferring control unit shall communicate to the accepting control unit the appropriate parts of the current flight plan and any control information pertinent to the transfer requested.

3.6.2.2.1 Transfer of control using radar

Where transfer of control is to be effected using radar or ADS-B data, the control information pertinent to the transfer shall include information regarding the position and, if required, the track and speed of the aircraft, as observed by radar or ADS-B immediately prior to the transfer.

3.6.2.2.2 Transfer of control using ADS-C

Where transfer of control is to be effected using ADS-C data, the control information pertinent to the transfer shall include the four-dimensional position and other information as necessary.

3.6.2.3 Communication from accepting control unit.

The accepting control unit shall:

(a) indicate its ability to accept control of the aircraft on the terms specified by the transferring control unit, unless by letter of agreement between the two units concerned, the absence of any such indication is understood to signify acceptance of the terms specified, or indicate any necessary changes thereto; and

b) specify any other information or clearance for a subsequent portion of the flight, which it requires the aircraft to have at the time of transfer.

3.6.2.4 Notifying the establishment of two way communication

The accepting control unit shall notify the transferring control unit when it has established two-way voice and/or data link communications with and assumed control of the aircraft concerned, unless otherwise specified in a letter of agreement between the two control units concerned.

3.6.2.5 Coordination procedures in letters of agreement.

Applicable coordination procedures, including transfer of control points, shall be specified by the air traffic services provider in letters of agreement and ATS unit instructions as appropriate.

BCAR ATS 3.7 Air traffic control clearances.

Air traffic control clearances shall be based solely on the requirements for providing air traffic control service.

3.7.1 Contents of clearances

3.7.1.1 Elements of the air traffic control clearances.

An air traffic control clearance shall indicate:

a) aircraft identification as shown in the flight plan;

b) clearance limit;

c) route of flight;

d) level(s) of flight for the entire route or part thereof and changes of levels if required;
(See IEM ATS 3.7.1.1)

e) any necessary instructions or information on other matters such as approach or departure manoeuvres, communications and the time of expiry of the clearance. The time of expiry of the clearance indicates the time after which the clearance will be automatically cancelled, if the flight has not been commenced.

3.7.1.2 Standard departure and arrival routes

The air traffic services provider shall establish standard departure and arrival routes and associated procedures when necessary to facilitate:

a) the safe, orderly and expeditious flow of air traffic;

b) the description of the route and procedure in air traffic control clearances.
(See IEM ATS 3.7.1.2)

3.7.2 Clearances for transonic flight

3.7.2.1 Clearance relating supersonic flights

The air traffic control clearance relating to the transonic acceleration phase of a supersonic flight shall extend at least to the end of that phase.

3.7.2.2 Decelaration and descent of supersonic flights

The air traffic control clearance relating to the deceleration and descent of an aircraft from supersonic cruise to subsonic flight should provide for uninterrupted descent, at least during the transonic phase.

3.7.3 Read-back of clearances and safety-related information.

3.7.3.1. Flight crew read back

The air traffic controller shall make sure that flight crew read back safety-related parts of ATC

clearances and instructions which are transmitted by voice. The following items shall always be read back:

a) ATC route clearances;

b) clearances and instructions to enter, land on, take off from, hold short of, cross and backtrack on any runway; and

c) runway-in-use, altimeter settings, SSR codes, level instructions, heading and speed instructions and, whether issued by the controller or contained in ATIS broadcasts, transition levels.

3.7.3.1.1 Other clearances read back

Other clearances or instructions, including conditional clearances, shall be read back or acknowledged in a manner to clearly indicate that they have been understood and will be complied with.

3.7.3.1.2 Listening to read backs

The controller shall listen to the read-back to ascertain that the clearance or instruction has been correctly acknowledged by the flight crew and shall take immediate action to correct any discrepancies revealed by the read-back.

3.7.3.2 Read back of messages CPDLC

The air traffic services provider shall determine if voice read-back of CPDLC messages shall not be required.
(See IEM ATS 3.7.3.2)

3.7.4 Coordination of clearances

An air traffic control clearance shall be coordinated between air traffic control units to cover the entire route of an aircraft or a specified portion thereof as follows.

3.7.4.1 Clearance until the aerodrome of first intended landing.

a) The air traffic control service provider shall clear the aircraft for the entire route to the aerodrome of first intended landing when:

1) it has been possible, prior to departure, to coordinate the clearance between all the units under whose control the aircraft will come; or

2) there is reasonable assurance that prior coordination will be effected between those units under whose control the aircraft will subsequently come.

b) Where a clearance is issued covering the initial part of the flight solely as a means of expediting departing traffic, the succeeding en-route clearance shall be as specified above even though the aerodrome of first intended landing is under the jurisdiction of an area control centre other than the one issuing the en-route clearance.

3.7.4.2 Clearances with no coordimation

When the air traffic service provider can not coordinate traffic as in 3.7.4.1, the aircraft shall be cleared only to that point where coordination is reasonably assured; prior to reaching such point, or at such point, the aircraft shall receive further clearance, holding instructions being issued as appropriate.

3.7.4.2.1 Downstream clearance prior to the transfer of control point

When prescribed by the appropriate ATS authority, aircraft shall contact a downstream air traffic control unit, for the purpose of receiving a downstream clearance prior to the transfer of control point.

3.7.4.2.1.1 Two way communications

Aircraft shall maintain the necessary two-way communication with the current air traffic control unit whilst obtaining a downstream clearance.

3.7.4.2.1.2 Clearance issued as a downstream clearance

When an air traffic service provider issues a downstream clearance shall be clearly identifiable as such to the pilot

3.7.4.2.1.3 Downstream clearances and aircraft's original flight profile

Unless coordinated, downstream clearances shall not affect the aircraft's original flight profile in any airspace, other than that of the air traffic control unit responsible for the delivery of the downstream clearance.
(See IEM ATS 3.7.4.2.1.3)

3.7.4.2.1.4 Downstream clearances using CPDLC.

Where practicable, and where data link communications are used to facilitate downstream clearance delivery, two-way voice communications between the pilot and the air traffic control unit providing the downstream clearance should be available.

3.7.4.3 Coordination before issuing a departure clearance.

When an aircraft intends to depart from an aerodrome within a control area to enter another control area within a period of thirty minutes, or such other specific period of time as has been agreed in a letter of agreement between the area control centres concerned, coordination with the subsequent area control centre shall be effected prior to issuance of the departure clearance.

3.7.4.4 Clearances for aircrafts going in and out of controlled airspace.

When an aircraft intends to leave a control area for flight outside controlled airspace, and will subsequently re-enter the same or another control area, a clearance from point of departure to the aerodrome of first intended landing may be issued. Such clearance or revisions thereto shall apply only to those portions of the flight conducted within controlled airspace.

3.7.5 Air traffic flow management

3.7.5.1 Implementing air traffic flow management (ATFM)

The air traffic service provider shall implement an air traffic flow management (ATFM) for airspace where air traffic demand at times exceeds, or is expected to exceed, the declared capacity of the air traffic control services concerned. The capacity of the air traffic control services concerned shall be declared by the air traffic service provider.
(See IEM ATS 3.7.5.1)

3.7.5.2 Implementing ATFM throughout air navigation regional agreements

The air traffic services provider shall implement ATFM on the basis of regional air navigation agreements or, if appropriate, through multilateral agreements. Such agreements shall make provision for common procedures and common methods of capacity determination.

3.7.5.3 Delays or restrictions applied by ATS due to lack of space

When it becomes apparent to an ATC unit that traffic additional to that already accepted cannot be accommodated within a given period of time at a particular location or in a particular area, or can only be accommodated at a given rate, that unit shall so advise the ATFM unit, when such is established, as well as, when appropriate, ATS units concerned. Flight crews of aircraft destined to the location or area in question and operators concerned shall also be advised of the delays expected or the restrictions that will be applied. Operators concerned shall be advised, in advance where possible, of restrictions imposed by the air traffic flow management unit when such is established

BCAR ATS 3.8 Control of persons and vehicles at aerodromes

3.8.1 Manoeuvring area of an aerodrome controlled by the control tower

The movement of persons or vehicles including towed aircraft on the manoeuvring area of an aerodrome shall be controlled by the aerodrome control tower as necessary to avoid hazard to them or to aircraft landing, taxiing or taking off.

3.8.2 Reserved

3.8.3 Emergency vehicles priority

Emergency vehicles proceeding to the assistance of an aircraft in distress shall be afforded priority over all other surface movement traffic.

3.8.4 Rules for the vehicles on the manoeuvring area

Subject to the provisions in 3.8.3, vehicles on the manoeuvring area shall be required to comply with the following rules:

a) vehicles and vehicles towing aircraft shall give way to aircraft which are landing, taking off or taxiing;

b) vehicles shall give way to other vehicles towing aircraft;

c) vehicles shall give way to other vehicles in accordance with ATS unit instructions;

d) notwithstanding the provisions of a), b) and c), vehicles and vehicles towing aircraft shall comply with instructions issued by the aerodrome control tower.

BCAR ATS 3.9 Provision of radar and ADS-B

Radar and ADS-B ground systems shall provide for the display of safety-related alerts and warnings, including conflict alert, conflict prediction, minimum safe altitude warning and unintentionally duplicated SSR codes.

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BCAR ATS 3.10 Reserved

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CHAPTER 4
FLIGHT INFORMATION SERVICES

BCAR ATS 4.1 Aplication

4.1.1 Provision of flight information services.

The air traffic services provider shall provide to all aircraft which are likely to be affected by the information and which are:

a) provided with air traffic control service; or

b) otherwise known to the relevant air traffic services units

Flight information service does not relieve the pilot-in-command of an aircraft of any responsibilities and the pilot-in-command shall make the final decision regarding any suggested alteration of flight plan

4.1.2 Preference of the air traffic control service over the flight information services.

Where air traffic services units provide both flight information service and air traffic control service, the provision of air traffic control service shall have precedence over the provision of flight information service whenever the provision of air traffic control service so requires.
(See IEM ATS 4.1.2)

BCAR ATS 4.2 Scope of flight information service

4.2.1 Flight information service shall include the provision of pertinent:

a) SIGMET and AIRMET information;

b) information concerning pre-eruption volcanic activity, volcanic eruptions and volcanic ash clouds;

c) information concerning the release into the atmosphere of radioactive materials or toxic chemicals;

d) information on changes in the availability of radio navigation services;

e) information on changes in condition of aerodromes and associated facilities, including information on the state of the aerodrome movement areas when they are affected by significant depth of water;

f) information on unmanned free balloons;

and of any other information likely to affect safety

4.2.2 Elements include in the flight information service

Flight information service provided to flights shall include, in addition to that outlined in 4.2.1, the provision of information concerning:

a) weather conditions reported or forecast at departure, destination and alternate aerodromes;

b) collision hazards, to aircraft operating in airspace Classes C, D, E, F and G;

c) for flight over water areas, in so far as practicable and when requested by a pilot, any available information such as radio call sign, position, true track, speed, etc., of surface vessels in the area.
(See IEM ATS 4.2.2)

4.2.3 Special air-reports

ATS units shall transmit, as soon as practicable, special air-reports to other aircraft concerned, to the associated meteorological office, and to other ATS units concerned. Transmissions to aircraft shall be continued for a period to be determined by agreement between the meteorological and air traffic services authorities concerned.

4.2.4 Flight information service provided to VFR flights

Flight information service provided to VFR flights shall include, in addition to that outlined in 4.2.1, the provision of available information concerning traffic and weather conditions along the route of flight that are likely to make operation under the visual flight rules impracticable.

BCAR ATS 4.3 Operational flight information service broadcasts

4.3.1 Aplication

4.3.1.1 Integrated information

The meteorological information and operational information concerning radio navigation services and aerodromes included in the flight information service shall, whenever available, be provided in an operationally integrated form.

4.3.1.2 Integrated operational flight information messages

The air traffic service provider where integrated operational flight information messages are to be transmitted to aircraft, they shall be transmitted with the content and, where specified, in the sequence indicated, for the various phases of flight.

4.3.1.3 Broadcasts HF, VHF y ATIS

Operational flight information service broadcasts, when provided, shall consist of messages containing integrated information regarding selected operational and meteorological elements appropriate to the various phases of flight. These broadcasts shall be of three major types, i.e. HF, VHF and ATIS

4.3.1.4 Use of the OFIS messages in directed request/reply transmissions

When requested by the pilot, the applicable OFIS message(s) shall be transmitted by the appropriate ATS unit.

4.3.2 HF operational flight information service (OFIS) broadcasts

4.3.2.1 OFIS broadcast by regional agreement

HF operational flight information service (OFIS) broadcasts shall be provided by the air traffic service provider when it has been determined by regional air navigation agreements that a requirement exists.

4.3.2.2 Whenever OFIS broadcasts are provided:

a) the information shall be in accordance with 4.3.2.5, as applicable, subject to regional air navigation agreements;

b) the aerodromes for which reports and forecasts are to be included shall be as determined by regional air navigation agreements;

c) the time-sequencing of stations participating in the broadcast shall be as determined by regional air navigation agreements;

d) the HF OFIS broadcast message shall take into consideration human performance. The broadcast message shall not exceed the length of time allocated for it by regional air navigation agreements, care being taken that the readability is not impaired by the speed of the transmission;
(See IEM ATS 4.3.2.2)

e) each aerodrome message shall be identified by the name of the aerodrome to which the information applies;

f) when information has not been received in time for a broadcast, the latest available information shall be included together with the time of that observation;

g) the full broadcast message shall be repeated if this is feasible within the remainder of the time allotted to the broadcasting station;

h) the broadcast information shall be updated immediately a significant change occurs; and

i) the HF OFIS message shall be prepared and disseminated by the most appropriate unit(s) as designated by each State

4.3.2.3 OFIS HF broadcast in international aerodromes

Pending the development and adoption of a more suitable form of speech for universal use in aeronautical radiotelephony communications, HF OFIS broadcasts concerning aerodromes designated for use by international air services shall be available in the English language.

4.3.2.4 Use of discrete channels.

Where HF OFIS broadcasts are available in more than one language, a discrete channel shall be used for each language.

4.3.2.5 Indicated sequence of the information content in HF broadcast

HF operational flight information service broadcast messages shall contain the following information in the sequence indicated or as determined by regional air navigation agreements:

a) En-route weather information

The air traffic service provider shall have the Information on significant en-route weather phenomena in the form of available SIGMET as prescribed in BCAR ANS (Annex 3).

b) Aerodrome information including:

1) name of aerodrome;

2) time of observation;

3) essential operational information;

4) surface wind direction and speed; if appropriate, maximum wind speed;

*5) visibility and, when applicable, runway visual range (RVR);

*6) present weather;

*7) cloud below 1 500 m (5 000 ft) or below the highest minimum sector altitude, whichever is greater; cumulonimbus; if the sky is obscured, vertical visibility when available; and

8) aerodrome forecast.

*These elements shall be replaced by the term “CAVOK”, whenever the conditions as specified in the PANS-ATM (Doc 4444), Chapter 11 prevail

4.3.3 VHF operational flight information service (OFIS) broadcasts

4.3.3.1 Determining VHF broadcast provisions

The air traffic service provider shall provide VHF operational flight information service broadcasts as determined by regional air navigation agreements.

4.3.3.2 Whenever VHF broadcasts are provided:

a) the aerodromes for which reports and forecasts are to be included shall be as determined by regional air navigation agreements;

b) each aerodrome message shall be identified by the name of the aerodrome to which the information applies;

c) when information has not been received in time for a broadcast, the latest available information shall be included together with the time of that observation;

d) the broadcasts shall be continuous and repetitive;

e) The VHF OFIS broadcast message shall take into consideration human performance. The broadcast message shall, whenever practicable, not exceed five minutes, care being taken that the readability is not impaired by the speed of the transmission;
(See IEM ATS 4.3.3.2)

f) the broadcast message shall be updated on a scheduled basis as determined by regional air navigation agreements. In addition it should be expeditiously updated immediately a significant change occurs; and

g) the VHF OFIS message shall be prepared and disseminated by the most appropriate unit(s) as designated by each State.

4.3.3.3 OFIS VHF broadcasts in international aerodromes

Pending the development and adoption of a more suitable form of speech for universal use in aeronautical radiotelephony communications, VHF OFIS broadcasts concerning aerodromes designated for use by international air services shall be available in the English language.

4.3.3.4 Use of separate channels.

Where VHF OFIS broadcasts are available in more than one language, a discrete channel shall be used for each language

4.3.3.5 Indicated sequence of the information content in VHF broadcast

VHF operational flight information service broadcast messages shall contain the following information in the sequence indicated:

a) name of aerodrome;

b) time of observation;

c) landing runway;

d) significant runway surface conditions and, if appropriate, braking action;

e) changes in the operational state of the radio navigation services, if appropriate;

f) holding delay, if appropriate;

g) surface wind direction and speed; if appropriate, maximum wind speed;

*h) visibility and, when applicable, runway visual range (RVR);

*i) present weather;

*j) cloud below 1 500 m (5 000 ft) or below the highest minimum sector altitude, whichever is greater; cumulonimbus; if the sky is obscured, vertical visibility, when available;

k) air temperature;

l) dew point temperature;

m) QNH altimeter setting;

n) supplementary information on recent weather of operational significance and, where necessary, wind shear;

o) trend forecast, when available; and

p) notice of current SIGMET messages.

* These elements are replaced by the term “CAVOK”, whenever the conditions as specified in the PANS-ATM (Doc 4444), Chapter 11 prevail
(See IEM ATS 4.3.3.2)

4.3.4 Voice-automatic terminal information service (Voice-ATIS) broadcasts

4.3.4.1 Amount of broadcasts of ATIS information

Voice-automatic terminal information service (Voice-ATIS) broadcasts shall be provided at aerodromes where there is a requirement to reduce the communication load on the ATS VHF air-ground communication channels. When provided, they shall comprise:

a) one broadcast serving arriving aircraft; or

b) one broadcast serving departing aircraft; or

c) one broadcast serving both arriving and departing aircraft; or

d) two broadcasts serving arriving and departing aircraft respectively at those aerodromes where the length of a broadcast serving both arriving and departing aircraft would be excessively long.

4.3.4.2 Discrete VHF frequency use for voice-ATIS broadcast

The air traffic service provider shall have a discrete VHF frequency, whenever practicable, be used for Voice-ATIS broadcasts. If a discrete frequency is not available, the transmission may be made on the voice channel(s) of the most appropriate terminal navigation aid(s), preferably a VOR, provided the range and readability are adequate and the identification of the navigation aid is sequenced with the broadcast so that the latter is not obliterated.

4.3.4.3 Broadcasting Voice-ATIS on the ILS channel.

The air traffic service provider shall not broadcasts Voice-ATIS on the voice channel of an ILS.

4.3.4.4 Continues broadcasting of voice-ATIS

Whenever voice-ATIS is provided, the air traffic service provider shall broadcast Voice-ATIS in a continuous and repetitive way.

4.3.4.5 Knowing Air traffic units ATIS information.

The information contained in the current broadcast shall immediately be made known to the ATS unit(s) concerned with the provision to aircraft of information relating to approach, landing and take-off, whenever the message has not been prepared by that (those) unit(s).
(See IEM ATS 4.3.4.5)

4.3.4.6 Voice-ATIS broadcast in international aerodromes

The air traffic service provider shall provide Voice-ATIS broadcasts at designated aerodromes for use by international air services and shall be available in the English language as a minimum.

4.3.4.7 Using different channels.
Where Voice-ATIS broadcasts are available in more than one language, a discrete channel shall be used for each language.

4.3.4.8 Length of Voice-ATIS broadcast

The Voice-ATIS broadcast message shall, whenever practicable, not exceed 30 seconds, care being taken that the readability of the ATIS message is not impaired by the speed of the transmission or by the identification signal of a navigation aid used for transmission of ATIS. The ATIS broadcast message shall take into consideration human performance.
(IEM ATS 4.3.3.2)

4.3.5 Reserved

4.3.6 Reserved

4.3.7 ATIS for arriving and departing aircraft

ATIS messages containing both arrival and departure information shall contain the following elements of information in the order listed:

a) name of aerodrome;

b) arrival and/or departure indicator;

c) contract type, if communication is via D-ATIS;

d) designator;

e) time of observation, if appropriate;

f) type of approach(es) to be expected;

g) the runway(s) in use; status of arresting system constituting a potential hazard, if any;

h) significant runway surface conditions and, if appropriate, braking action;

i) holding delay, if appropriate;

j) transition level, if applicable;

k) other essential operational information;

l) surface wind direction and speed, including significant variations and, if surface wind sensors related specifically to the sections of runway(s) in use are available and the information is required by operators, the indication of the runway and the section of the runway to which the information refers;

*m) visibility and, when applicable, RVR;

*n) present weather;

*o) cloud below 1 500 m (5 000 ft) or below the highest minimum sector altitude, whichever is greater; cumulonimbus; if the sky is obscured, vertical visibility when available;

q) air temperature;

†q) dew point temperature;

r) altimeter setting(s);

s) any available information on significant meteorological phenomena in the approach and climb-out areas including wind shear, and information on recent weather of operational significance;

t) trend forecast, when available; and

u) specific ATIS instructions.

4.3.8 Reserved

4.3.9 Reserved

BCAR ATS 4.4 Reserved

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CHAPTER 5
ALERTING SERVICE

BCAR ATS 5.1 Aplication

5.1.1 Alerting service shall be provided

The air traffic service provider shall provide alerting service:

a) for all aircraft provided with air traffic control service;

b) in so far as practicable, to all other aircraft having filed a flight plan or otherwise known to the air traffic services; and

c) to any aircraft known or believed to be the subject of unlawful interference.

5.1.2 Collecting all information relevant to a state of emergency of an aircraft

Flight information centres or area control centres shall serve as the central point for collecting all information relevant to a state of emergency of an aircraft operating within the flight information region or control area concerned and for forwarding such information to the appropriate rescue coordination centre.

5.1.3 Aircraft in a state of emergency

In the event of a state of emergency arising to an aircraft while it is under the control of an aerodrome control tower or approach control unit, such unit shall notify immediately the flight information centre or area control centre responsible which shall in turn notify the rescue coordination centre, except that notification of the area control centre, flight information centre, or rescue coordination centre shall not be required when the nature of the emergency is such that the notification would be superfluous.

5.1.3.1 Immediate assistance requiered

Nevertheless, whenever the urgency of the situation so requires, the aerodrome control tower or approach control unit responsible shall first alert and take other necessary steps to set in motion all appropriate local rescue and emergency organizations which can give the immediate assistance required.

BCAR ATS 5.2 Notification of rescue coordination centres

5.2.1 Air traffic services units shall notify rescue coordination centres

Without prejudice to any other circumstances that may render such notification advisable, air traffic services units shall, except as prescribed in 5.5.1, notify rescue coordination centres immediately an aircraft is considered to be in a state of emergency in accordance with the following:

a) Uncertainty phase when:

1) no communication has been received from an aircraft within a period of thirty minutes after the time a communication shall have been received, or from the time an unsuccessful attempt to establish communication with such aircraft was first made, whichever is the earlier, or when

2) an aircraft fails to arrive within thirty minutes of the estimated time of arrival last notified to or estimated by air traffic services units, whichever is the later,

except when no doubt exists as to the safety of the aircraft and its occupants.

b) Alert phase when:

1) following the uncertainty phase, subsequent attempts to establish communication with the aircraft or inquiries to other relevant sources have failed to reveal any news of the aircraft, or when

2) an aircraft has been cleared to land and fails to land within five minutes of the estimated time of landing and communication has not been re-established with the aircraft, or when

3) information has been received which indicates that the operating efficiency of the aircraft has been impaired, but not to the extent that a forced landing is likely,

except when evidence exists that would allay apprehension as to the safety of the aircraft and its occupants, or when

4) an aircraft is known or believed to be the subject of unlawful interference.

c) Distress phase when:

1) following the alert phase, further unsuccessful attempts to establish communication with the aircraft and more widespread unsuccessful inquiries point to the probability that the aircraft is in distress, or when

2) the fuel on board is considered to be exhausted, or to be insufficient to enable the aircraft to reach safety, or when

3) information is received which indicates that the operating efficiency of the aircraft has been impaired to the extent that a forced landing is likely, or when

4) information is received or it is reasonably certain that the aircraft is about to make or has made a forced landing,

except when there is reasonable certainty that the aircraft and its occupants are not threatened by grave and imminent danger and do not require immediate assistance.

5.2.2 Information containned in the notification

The notification shall contain such of the following information as is available in the order listed:

a) INCERFA, ALERFA or DETRESFA, as appropriate to the phase of the emergency;

b) agency and person calling;

c) nature of the emergency;

d) significant information from the flight plan;

e) unit which made last contact, time and means used;

f) last position report and how determined;

g) colour and distinctive marks of aircraft;

h) dangerous goods carried as cargo;

i) any action taken by reporting office; and

j) other pertinent remarks.

5.2.2.1 Sought information before declaring a distress phase

Such part of the information specified in 5.2.2, which is not available at the time notification is made to a rescue coordination centre, shall be sought by an air traffic services unit prior to the declaration of a distress phase, if there is reasonable certainty that this phase will eventuate.

5.2.3 Aditional information furnished

Further to the notification in 5.2.1, the rescue coordination centre shall, without delay, be furnished with:

a) any useful additional information, especially on the development of the state of emergency through subsequent phases; or

b) information that the emergency situation no longer exists.

The cancellation of action initiated by the rescue coordination centre shall be the responsibility of that centre.

BCAR ATS 5.3 Use of communication facilities

Air traffic services units shall, as necessary, use all available communication facilities to endeavour to establish and maintain communication with an aircraft in a state of emergency, and to request news of the aircraft.

BCAR ATS 5.4 Plotting aircraft in a state of emergency

When a state of emergency is considered to exist, the flight of the aircraft involved shall be plotted on a chart in order to determine the probable future position of the aircraft and its maximum range of action from its last known position. The flights of other aircraft known to be operating in the vicinity of the aircraft involved shall also be plotted in order to determine their probable future positions and maximum endurance.

BCAR ATS 5.5 Information to the operator

5.5.1 Advise the operator in case of uncertainty or alert phase

When an area control or a flight information centre decides that an aircraft is in the uncertainty or the alert phase, it shall, when practicable, advise the operator prior to notifying the rescue coordination centre.

If an aircraft is in the distress phase, the rescue coordination centre shall be notified immediately in accordance with 5.2.1.

5.5.2 Notifying the rescue coordination centre and the operator

All information notified to the rescue coordination centre by an area control or flight information centre shall, whenever practicable, also be communicated, without delay to the operator.

BCAR ATS 5.6 Information to aircraft operating in the vicinity of an aircraft in a state of emergency

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5.6.1 Informing other aircraft of the emergency as son as practicable.

When it has been established by an air traffic services unit that an aircraft is in a state of emergency, other aircraft known to be in the vicinity of the aircraft involved shall, except as provided in 5.6.2, be informed of the nature of the emergency as soon as practicable.

5.6.2 ATS air-ground communications when an aircraft is being subjectec to unlawful interference

When an air traffic services unit knows or believes that an aircraft is being subjected to unlawful interference, no reference shall be made in ATS air-ground communications to the nature of the emergency unless it has first been referred to in communications from the aircraft involved and it is certain that such reference will not aggravate the situation.

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CHAPTER 6
AIR TRAFFIC SERVICES REQUIREMENTS FOR COMMUNICATIONS

BCAR ATS 6.1 Aeronautical mobile service (air-ground communications)

6.1.1 General

6.1.1.1 Use of radiotelephony or data link in communications

Radiotelephony and/or data link shall be used in air-ground communications for air traffic services purposes. The ATS units shall maintain guard on the emergency channel 121.5 MHz.

6.1.1.2 RCP types for ATM functions

Where RCP types have been prescribed by the air traffic service provider for ATM functions, ATS units shall, in addition to the requirements specified in 6.1.1.1, be provided with communication equipment which will enable them to provide ATS in accordance with the prescribed RCP type(s).
(See IEM ATS 6.1.1.2)

6.1.1.3 Recording facilities

When direct pilot-controller two-way radiotelephony or data link communications are used for the provision of air traffic control service, recording facilities shall be provided by the air traffic services provider on all such air-ground communication channels.
(See IEM ATS 6.1.1.3)

6.1.1.4 Retaining recordings of communication channels

The air traffic services provider shall retain recordings of communications channels as required in paragraph 6.1.1.3 for a period of at least thirty days. For the purpose of an investigation they shall be retained for longer periods until it is evident that they will be no longer required.

6.1.2 For flight information service

6.1.2.1 Two way communicatios

Air-ground communication facilities shall enable two-way communications to take place between a unit providing flight information service and appropriately equipped aircraft flying anywhere within the flight information region.

6.1.2.2 Direct, rapid, continuous and static-free two-way communications for FIS

Whenever practicable, airground communication facilities for flight information service shall permit direct, rapid, continuous and static-free two-way communications.

6.1.3 For area control service.

6.1.3.1 Two way communications

Air-ground communication facilities shall enable two-way communications to take place between a unit providing area control service and appropriately equipped aircraft flying anywhere within the control area(s).

6.1.3.2 Direct, rapid, continuous and static-free two-way communications for area control.

Whenever practicable, airground communication facilities for area control service shall permit direct, rapid, continuous and static-free two-way communications.

6.1.3.3 Air-ground voice communication channels use for area control service

Where air-ground voice communication channels are used for area control service and are worked by air-ground communicators, suitable arrangements shall be made to permit direct pilot-controller voice communications, as and when required.

6.1.4 For approach control service

6.1.4.1 Direct, rapid, continuous and static-free two-way communications for approach control

Air-ground communication facilities shall enable direct, rapid, continuous and static-free two-way communications to take place between the unit providing approach control service and appropriately equipped aircraft under its control.

6.1.4.2 Air-ground voice communication channels use for approach control

Where the unit providing approach control service functions as a separate unit, air-ground communications shall be conducted over communication channels provided for its exclusive use.

6.1.5 For aerodrome control service

6.1.5.1 Direct, rapid, continuous and static-free two-way communications for aerodrome control

Air-ground communication facilities shall enable direct, rapid, continuous and static-free two-way communications to take place between an aerodrome control tower and appropriately equipped aircraft operating at any distance within 45 km (25 NM) of the aerodrome concerned.

BCAR ATS 6.2 Aeronautical fixed service (ground-ground communications)

6.2.1 General

6.2.1.1 Direct speech or data link communication

The air traffic service provider shall use direct-speech and/or data link communications in ground-ground communications for air traffic services purposes.
(See IEM ATS 6.2.1.1)

6.2.1.2 RCP types for ATM functions

Where RCP types have been prescribed by States for ATM functions, ATS units shall, in addition to the requirements specified in 6.2.1.1, be provided with communication equipment which will enable them to provide ATS in accordance with the prescribed RCP type(s).
(See IEM ATS 6.1.1.2)

6.2.2 Communications within a flight information region

6.2.2.1 Comminications between air traffic services units

6.2.2.1.1 Communications with the flight information centre

A flight information centre shall have facilities for communications with the following units providing a service within its area of responsibility:

a) the area control centre, unless collocated;

b) approach control units;

c) aerodrome control towers.

6.2.2.1.2 Communications in the area control centre

An area control centre, in addition to being connected to the flight information centre as prescribed in 6.2.2.1.1, shall have facilities for communications with the following units providing a service within its area of responsibility:

a) approach control units;

b) aerodrome control towers;

c) air traffic services reporting offices, when separately established.

6.2.2.1.3 Communications in the approach control unit

An approach control unit, in addition to being connected to the flight information centre and the area control centre as prescribed in 6.2.2.1.1 and 6.2.2.1.2, shall have facilities for communications with the associated aerodrome control tower(s) and, when separately established, the associated air traffic services reporting office(s).

6.2.2.1.4 Communications in the aerodrome control tower

An aerodrome control tower, in addition to being connected to the flight information centre, the area control centre and the approach control unit as prescribed in 6.2.2.1.1, 6.2.2.1.2 and 6.2.2.1.3, shall have facilities for communications with the associated air traffic services reporting office, when separately established.

6.2.2.2 Communications between air traffic services units and other units

6.2.2.2.1 Communications in the area control centre and flight information centre

A flight information centre and an area control centre shall have facilities for communications with the following units providing a service within their respective area of responsibility:

a) appropriate military units;

b) the meteorological office serving the centre;

c) the aeronautical telecommunications station serving the centre;

d) appropriate operator's offices;

e) the rescue coordination centre or, in the absence of such centre, any other appropriate emergency service;

f) the international NOTAM office serving the centre.

6.2.2.2.2 Communications in the approach control unit and aerodrome control towers

An approach control unit and an aerodrome control tower shall have facilities for communications with the following units providing a service within their respective area of responsibility:

a) appropriate military units;

b) rescue and emergency services (including ambulance, fire, etc.);

c) the meteorological office serving the unit concerned;

d) the aeronautical telecommunications station serving the unit concerned;

e) the unit providing apron management service, when separately established

6.2.2.2.3 Rapid and reliable communications between ATS and military units responsible for interception operations

The communication facilities required under 6.2.2.2.1 a) and 6.2.2.2.2 a) shall include provisions for rapid and reliable communications between the air traffic services unit concerned and the military unit(s) responsible for control of interception operations within the area of responsibility of the air traffic services unit.

6.2.2.3 Description of communication facilities

6.2.2.3.1 Communication facilities

The communication facilities required under 6.2.2.1, 6.2.2.2.1 a) and 6.2.2.2.2 a), b) and c) shall include provisions for:

a) communications by direct speech alone, or in combination with data link communications, whereby for the purpose of transfer of control using radar or ADS-B, the communications can be established instantaneously and for other purposes the communications can normally be established within fifteen seconds; and

b) printed communications, when a written record is required; the message transit time for such communications being no longer than five minutes

6.2.2.3.2 Maximun periods of time for communications

In all cases not covered by 6.2.2.3.1, the communication facilities should include provisions for:

a) communications by direct speech alone, or in combination with data link communications, whereby the communications can normally be established within fifteen seconds; and

b) printed communications, when a written record is required; the message transit time for such communications being no longer than five minutes

6.2.2.3.3 Automatic transfer of data

In all cases where automatic transfer of data to and/or from air traffic services computers is required, suitable facilities for automatic recording shall be provided.

6.2.2.3.4 Visual or audio communications

The communication facilities required in accordance with 6.2.2.1 and 6.2.2.2 should be supplemented, as and where necessary, by facilities for other forms of visual or audio communications, for example, closed circuit television or separate information processing systems.

6.2.2.3.5 Establishing conference communications

The communication facilities required under 6.2.2.2.2 a), b) and c) shall include provisions for communications by direct speech arranged for conference communications.

6.2.2.3.6 Time for establishing communications

The communication facilities required under 6.2.2.2.2 d) should include provisions for communications by direct speech arranged for conference communications, whereby the communications can normally be established within fifteen seconds.

6.2.2.3.7 Automatic recording

All facilities for direct-speech or data link communications between air traffic services units and between air traffic services units and other units described under 6.2.2.2.1 and 6.2.2.2.2 shall be provided with automatic recording.

6.2.2.3.8 Retaining recordings of data and communications

Recordings of data and communications as required in 6.2.2.3.3 and 6.2.2.3.7 shall be retained for a period of at least thirty days. . For the purpose of an investigation they shall be retained for longer periods until it is evident that they will be no longer required.

6.2.3 Communications between flight information regions

6.2.3.1 Communicating with adjacent centres

Flight information centres and area control centres shall have facilities for communications with all adjacent flight information centres and area control centres.

6.2.3.1.1 Retaining communications as permanent records

The communication facilities shall in all cases include provisions for messages in a form suitable for retention as a permanent record, and delivery in accordance with transit times specified by regional air navigation agreements.

6.2.3.1.2 Immediate communications for transfering control

Unless otherwise prescribed on the basis of regional air navigation agreements, facilities for communications between area control centres serving contiguous control areas shall, in addition, include provisions for directspeech and, where applicable, data link communications, with automatic recording, whereby for the purpose of transfer of control using radar, ADS-B or ADS-C data, the communications shall be established instantaneously and for other purposes the communications shall normally be established within fifteen seconds.

6.2.3.1.3 Agreement between the air traffic service providers concerned in order to eliminate or reduce the need for interceptions

When so required by agreement between the air traffic service providers concerned in order to eliminate or reduce the need for interceptions in the event of deviations from assigned track, facilities for communications between adjacent flight information centres or area control centres other than those mentioned in 6.2.3.1.2 shall include provisions for direct speech alone, or in combination with data link communications. The communication facilities shall be provided with automatic recording.

6.2.3.1.4 Response time

The communication facilities in 6.2.3.1.3 shall permit communications to be established normally within fifteen seconds.

6.2.3.2 Connected adjacent ATS units

Adjacent ATS units should be connected in all cases where special circumstances exist.
(See IEM ATS 6.2.3.2)

6.2.3.3 Communications with adjacent area control centre

Wherever local conditions are such that it is necessary to clear aircraft into an adjacent control area prior to departure, an approach control unit and/or aerodrome control tower shall be connected with the area control centre serving the adjacent area.

6.2.3.4 Communications by direct speech alone, or in combination with data link communications, with automatic recording

The communication facilities in 6.2.3.2 and 6.2.3.3 shall include provisions for communications by direct speech alone, or in combination with data link communications, with automatic recording, whereby for the purpose of transfer of control using radar, ADS-B or ADS-C data, the communications shall be established instantaneously and for other purposes the communications shall normally be established within fifteen seconds.

6.2.3.5 Automatic exchange of data between air traffic services computers

In all cases where automatic exchange of data between air traffic services computers is required, suitable facilities for automatic recording shall be provided and the air traffic service provider shall retain this information for a period of at least 30 days.

6.2.4 Procedures for direct-speech communications

Appropriate procedures for direct speech communications should be developed to permit immediate connections to be made for very urgent calls concerning the safety of aircraft, and the interruption, if necessary, of less urgent calls in progress at the time.

BCAR ATS 6.3 Surface movement control service

6.3.1 Communications for the control of vehicles other than aircraft on manoeuvring areas at controlled aerodromes.

6.3.1.1 Two way radiotelephony communications for the control of vehicules

Two-way radiotelephony communication facilities shall be provided for aerodrome control service for the control of vehicles on the manoeuvring area, except where communication by a system of visual signals is deemed to be adequate.

6.3.1.2 Separate communication channels.

Where conditions warrant, separate communication channels shall be provided for the control of vehicles on the manoeuvring area. Automatic recording facilities shall be provided on all such channels and the air traffic service provider shall retain this information for a period of at least 30 days.

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BCAR ATS 6.4 Aeronautical radio navigation service

6.4.1 Automatic recording of surveillance data

6.4.1.1 Surveillance data from primary and secondary radar equipment or other systems

Surveillance data from primary and secondary radar equipment or other systems (e.g. ADS-B, ADS-C), used as an aid to air traffic services, shall be automatically recorded for use in accident and incident investigations, search and rescue, air traffic control and surveillance systems evaluation and training.

6.4.1.2 Retaining automatic recordings

Automatic recordings shall be retained for a period of at least thirty days. When the recordings are pertinent to accident and incident investigations, they shall be retained for longer periods until it is evident that they will no longer be required.

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CHAPTER 7
AIR TRAFFIC SERVICES REQUIREMENTS FOR INFORMATION

BCAR ATS 7.1 Meteorological information

7.1.1 General

7.1.1.1 Up-to-date information on existing and forecast meteorological conditions

The Air traffic services provider shall make sure that its units shall be supplied with up-to-date information on existing and forecast meteorological conditions as necessary for the performance of their respective functions. The information shall be supplied in such a form as to require a minimum of interpretation on the part of air traffic services personnel and with a frequency which satisfies the requirements of the air traffic services units concerned.

7.1.1.2 Detailed information of meteorological phenomena

Air traffic services units shall be supplied with available detailed information on the location, vertical extent, direction and rate of movement of meteorological phenomena in the vicinity of the aerodrome, and particularly in the climb-out and approach areas, which could be hazardous to aircraft operations.
(See IEM ATS 7.1.1.2)

7.1.1.3 Reserved

7.1.2 Flight information centres and area control centres

7.1.2.1 SIGMET and AIRMET reports

Flight information centres and area control centres shall be supplied with meteorological information as described in BCAR ANS (Annex 3, Appendix 9, 1.3), particular emphasis being given to the occurrence or expected occurrence of weather deterioration as soon as this can be determined. These reports and forecasts shall cover the flight information region or control area and such other areas as may be determined on the basis of regional air navigation agreements.
(See IEM ATS 7.1.2.1)

7.1.2.2 Pressure data for setting altimeters

The air traffic services provider shall make sure that flight information centres and area control centres be provided, at suitable intervals, with current pressure data for setting altimeters, for locations specified by the flight information centre or area control centre concerned.

7.1.3 Unit providing approach control service

7.1.3.1 Reports and up to date forecasts

The air traffic service provider shall make sure that its unit providing approach control service shall be supplied with meteorological information as described in BCAR ANS (Annex 3, Appendix 9, 1.2) for the airspace and the aerodromes with which they are concerned. Special reports and amendments to forecasts shall be communicated to the unit providing approach control service as soon as they are necessary in accordance with established criteria, without waiting for the next routine report or forecast. Where multiple anemometers are used, the indicators to which they are related shall be clearly marked to identify the runway and section of the runway monitored by each anemometer.
(See IEM ATS 7.1.2.1)

7.1.3.2 Altimeter setting for approach control unit

The unit providing approach control service shall be provided with current pressure data for setting altimeters, for locations specified by the unit providing approach control service.

7.1.3.3 Surface wind display for the approach control unit

The unit providing approach control service for final approach, landing and take-off shall be equipped with surface wind display(s). The display(s) shall be related to the same location(s) of observation and be fed from the same sensor(s) as the corresponding display(s) in the aerodrome control tower and in the meteorological station, where such a station exists.

7.1.3.4 Reserved

7.1.3.5 Reserved

7.1.3.6 Wind shear information

The Unit providing approach control service for final approach, landing and take-off shall be supplied with information on wind shear which could adversely affect aircraft on the approach or take-off paths or during circling approach.
(See IEM ATS 7.1.3.6)

7.1.4 Aerodrome control towers

7.1.4.1 Up to date aerodrome control towers meteorological information

Aerodrome control towers shall be supplied with meteorological information as described in BCAR ANS (Annex 3, Appendix 9, 1.1) for the aerodrome with which they are concerned. Special reports and amend-ments to forecasts shall be communicated to the aerodrome control towers as soon as they are necessary in accordance with established criteria, without waiting for the next routine report or forecast.
(See IEM ATS 7.1.2.1)

7.1.4.2 Altimeter setting data for the tower

Aerodrome control towers shall be provided with current pressure data for setting altimeters for the aerodrome concerned.

7.1.4.3 Surface wind displays for the aerodrome control towers

Aerodrome control towers shall be equipped with surface wind display(s). The display(s) shall be related to the same location(s) of observation and be fed from the same sensor(s) as the corresponding display(s) in the meteorological station, where such a station exists. Where multiple sensor(s) are used, the displays to which they are related shall be clearly marked to identify the runway and section of the runway monitored by each sensor.

7.1.4.4 Reserved

7.1.4.5 Reserved

7.1.4.6 Reports on wind shear

Aerodrome control towers shall be supplied with information on wind shear which could adversely affect aircraft on the approach or take-off paths or during circling approach and aircraft on the runway during the landing roll or take-off run.

7.1.4.7 Aerodrome warnings

Aerodrome control towers and/or other appropriate units should be supplied with aerodrome warnings, information about meorological conditions which could adversely affect aircraft on the ground, and even on the apron.
(See IEM ATS 7.1.4.7)

7.1.5 Communication stations

Where necessary for flight information purposes, current meteorological reports and forecasts shall be supplied to communication stations. A copy of such information shall be forwarded to the flight information centre or the area control centre.

BCAR ATS 7.2 Information on aerodrome conditions and the operational status of associated facilities

Aerodrome control towers and units providing approach control service shall be kept currently informed of the operationally significant conditions of the movement area, including the existence of temporary hazards, and the operational status of any associated facilities at the aerodrome(s) with which they are concerned.

BCAR ATS 7.3 Information on the operational status of navigation services

7.3.1 Information on the operational status of radio navigation services and visual aids

ATS units shall be kept currently informed of the operational status of radio navigation services and visual aids essential for take-off, departure, approach and landing procedures within their area of responsibility and those radio navigation services and visual aids essential for surface movement.

7.3.2 Information on the operational status, and any changes of radio navigation services and visual aids

Information on the operational status and any changes thereto, of radio navigation services and visual aids as referred to in 7.3.1 shall be received by

the appropriate ATS unit(s) on a timely basis consistent with the use of the service(s) and aid(s) involved.
(See IEM ATS 7.3.2)

BCAR ATS 7.4 Information on unmanned free balloons

Operators of unmanned free balloons shall keep the appropriate air traffic services units informed of details of flights of unmanned free balloons in accordance with the provisions contained in BCAR 02.

BCAR ATS 7.5 Information concerning volcanic activity

7.5.1 Pre-eruption volcanic activity

ATS units shall be informed, in accordance with local agreement, of pre-eruption volcanic activity, volcanic eruptions and volcanic ash cloud which could affect airspace used by flights within their area of responsibility..

7.5.2 Volcanic ash advisory information issued by the associated VAAC.

Area control centres and flight information centres shall be provided with volcanic ash advisory information issued by the associated VAAC.
(See IEM ATS 7.5.2)

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BCAR ATS 7.6 Information concerning radioactive materials and toxic chemical "clouds"

ATS units shall be informed, in accordance with local agreement, of the release into the atmosphere of radioactive materials or toxic chemicals which could affect airspace used by flights within their area of responsibility.

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APPENDIX 1

PRINCIPLES GOVERNING THE IDENTIFICATION OF NAVIGATION SPECIFICATIONS AND THE IDENTIFICATION OF ATS ROUTES OTHER THAN STANDARD DEPARTURE AND ARRIVAL ROUTES

(See IEM ATS Appendix 1)

BCAR ATS AP1 1 Designators for ATS routes and navigation specifications

BCAR ATS AP1 1.1 Purpose of a system of route designators and navigation specification

For the air traffic service provider the purpose of a system of route designators and navigation specification(s) applicable to specified ATS route segment(s), route(s) or area is to allow both pilots and ATS, taking into account automation requirements:

a) to make unambiguous reference to any ATS route without the need to resort to the use of geographical coordinates or other means in order to describe it;

b) to relate an ATS route to a specific vertical structure of the airspace, as applicable;

c) to indicate a required level of navigation performance accuracy, when operating along an ATS route or within a specified area; and

d) to indicate that a route is used primarily or exclusively by certain types of aircraft.

(See IEM ATS AP1 1.1)

BCAR ATS AP1 1.2 Designation purpose

In order to meet this purpose, the designation system shall:

a) permit the identification of any ATS route in a simple and unique manner;

b) avoid redundancy;

c) be usable by both ground and airborne automation systems;

d) permit utmost brevity in operational use; and

e) provide sufficient possibility of extension to cater for any future requirements without the need for fundamental changes.

BCAR ATS AP1 1.3 Controlled, advisory and uncontrolled ATS routes

Controlled, advisory and uncontrolled ATS routes, with the exception of standard arrival and departure routes, shall therefore be identified as specified in BCAR ATS AP1 2.

BCAR ATS AP1 2 Composition of designator

BCAR ATS AP1 2.1 Basic designator supplemented

The ATS route designator shall consist of a basic designator supplemented, if necessary, by:

a) one prefix as prescribed in BCAR ATS AP1 2.3; and

b) one additional letter as prescribed in BCAR ATS AP1 2.4.

BCAR ATS AP1 2.1.1 Numbers of characters required

The number of characters required to compose the designator shall not exceed six characters.

BCAR ATS AP1 2.1.2 Maximun numbers of characters

The number of characters required to compose the designator shall, whenever possible, be kept to a maximum of five characters

BCAR ATS AP1 2.2 Basic designator

The basic designator shall consist of one letter of the alphabet followed by a number from 1 to 999.

BCAR ATS AP1 2.2.1 Selection of the letters

Selection of the letter shall be made from those listed hereunder:

a) A, B, G, R for routes which form part of the regional networks of ATS routes and are not area navigation routes;

b) L, M, N, P for area navigation routes which form part of the regional networks of ATS routes;

c) H, J, V, W for routes which do not form part of the regional networks of ATS routes and are not area navigation routes;

d) Q, T, Y, Z for area navigation routes which do not form part of the regional networks of ATS routes.

BCAR ATS AP1 2.3 Supplementary letter

Where applicable, one supplementary letter shall be added as a prefix to the basic designator in accordance with the following:

a) K to indicate a low-level route established for use primarily by helicopters;

b) U to indicate that the route or portion thereof is established in the upper airspace;

c) S to indicate a route established exclusively for use by supersonic aircraft during acceleration, deceleration and while in supersonic flight.

BCAR ATS AP1 2.4 Indicates the type of service provided

When prescribed by the appropriate ATS authority or on the basis of regional air navigation agreements, a supplementary letter may be added after the basic designator of the ATS route in question in order to indicate the type of service provided in accordance with the following:

a) the letter F to indicate that on the route or portion thereof advisory service only is provided;

b) the letter G to indicate that on the route or portion thereof flight information service only is provided.

(See IEM ATS AP1 2.4)

BCAR ATS AP1 3 Assignment of basic designators

BCAR ATS AP1 3.1 Basic ATS routes designator

Basic ATS route designators shall be assigned in accordance with the BCAR ATS AP1 3.1.1.

BCAR ATS AP1 3.1.1 Assigning the same basic designator

The air traffic service provider shall assign the same basic designator to a main trunk route throughout its entire length, irrespective of terminal control areas, States or regions traversed. This is of particular importance where automated ATS data processing and computerized airborne navigation equipment is used.

BCAR ATS AP1 3.1.2 Routes with a common segment

Where two or more trunk routes have a common segment, the segment in question shall be assigned each of the designators of the routes concerned, except where this would present difficulties in the provision of air traffic service, in which case, by common agreement, one designator only shall be assigned.

BCAR ATS AP1 3.1.3 Exclusive designator

A basic designator assigned to one route shall not be assigned to any other route.

BCAR ATS AP1 3.1.4 Notifying Regional offices of ICAO

The air traffic service provider shall notify to the Regional Offices of ICAO throughout the State the need for designators.

BCAR ATS AP1 4 Use of designators in communication

BCAR ATS AP1 4.1 Printed communications

In printed communications, the designator shall be expressed at all times by not less than two and not more than six characters.

BCAR ATS AP1 4.2 Voice communications

In voice communications, the basic letter of a designator shall be spoken in accordance with the ICAO spelling alphabet.

BCAR ATS AP1 4.3 Pronouncing prefixes

When the air traffic services provider uses the prefixes K, U or S specified in **BCAR ATS AP1 2.3**, they shall, in voice communications, be spoken as follows:

K — KOPTER
U — UPPER
S — SUPERSONIC

The word “kopter” shall be pronounced as in the word “helicopter” and the words “upper” and “supersonic” as in the English language

BCAR ATS AP1 4.4 Use of letters “F” or “G”

When the air traffic service provider uses the letters “F” or “G” specified in **BCAR ATS AP1 2.4**, the flight crew should not be required to use them in voice communications.

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APPENDIX 2
PRINCIPLES GOVERNING THE ESTABLISHMENT AND IDENTIFICATION OF SIGNIFICANT POINTS

(See Subpart A, BCAR ATS 2.14)

BCAR ATS AP2 1 Establishment of significant points

BCAR ATS AP2 1.1 Reference to ground-based radionavigation aids

The air traffic service provider shall establish significant points, with reference to ground-based radio navigation aids, preferably VHF or higher frequency aids.

BCAR ATS AP2 1.2 Self-contained airborne navigation aids

If ground-based radio navigation aids do not exist, significant points shall be established at locations which can be determined by self-contained airborne navigation aids, or, where navigation by visual reference to the ground is to be effected, by visual observation. Specific points shall be designated as ‘‘transfer of control’’ points by agreement between adjacent air traffic control units or control positions concerned.

BCAR ATS AP2 2 Designators for significant points marked by the site of a radio navigation aid

BCAR ATS AP2 2.1 Plain language (names)

The air traffic services provider shall use plain language name for significant points marked by the site of a radio navigation aid

BCAR ATS AP2 2.1.1 Reference to an identifiable and preferably prominent geographical location

The air traffic services provider shall name significant points with reference to an identifiable and preferably prominent geographical location.

BCAR ATS AP2 2.1.2 Selecting a name for a significant point

In selecting a name for the significant point, the air traffic services provider shall take care ensuring that the following conditions are met:

a) the name shall not create difficulties in pronunciation for pilots or ATS personnel when speaking in the language used in ATS communications. Where the name of a geographical location in the national language selected for designating a significant point gives rise to difficulties in pronunciation, an abbreviated or contracted version of this name, which retains as much of its geographical significance as possible, shall be selected;

Example: FUERSTENFELDBRUCK = FURSTY

b) the name shall be easily recognizable in voice communications and shall be free of ambiguity with those of other significant points in the same general area. In addition, the name shall not create confusion with respect to other communications exchanged between air traffic services and pilots;

c) the name shall, if possible, consist of at least six letters and form two syllables and preferably not more than three;

d) the selected name shall be the same for both the significant point and the radio navigation aid marking it.

BCAR ATS AP2 2.2 Composition of coded designators for significant points marked by the site of a radio navigation aid

BCAR ATS AP2 2.2.1 Coded designators

The coded designator shall be the same as the radio identification of the radio navigation aid. It shall be so composed, if possible, as to facilitate association with the name of the point in plain language.

BCAR ATS AP2 2.2.2 Duplicated coded designators

The air traffic services provider shall not duplicate Coded designators within 1100 km (600 NM) of the

location of the radio navigation aid concerned, except as noted hereunder.

When two radio navigation aids operating in different bands of the frequency spectrum are situated at the same location, their radio identifications are normally the same.

BCAR ATS AP2 2.3 Notifying needs of coded designators

The needs of the air traffic services provider for coded designators shall be notified to the Regional Offices of ICAO for coordination.

BCAR ATS AP2 3 Designators for significant points not marked by the site of a radio navigation aid

BCAR ATS AP2 3.1 Designating name codes

When an air traffic services provider requires a significant point at a position not marked by the site of a radio navigation aid, the significant point shall be designated by a unique five-letter pronounceable "name-code". This name-code designator then serves as the name as well as the coded designator of the significant point.

BCAR ATS AP2 3.2 Avoid difficulties in pronunciation

The air traffic services provider shall select the name-code designator so as to avoid any difficulties in pronunciation by pilots or ATS personnel when speaking in the language used in ATS communications.

Examples: PARSA, AVAKO

BCAR ATS AP2 3.3 Easy recognition of name code

The name-code designator shall be easily recognizable in voice communications and shall be free of ambiguity with those used for other significant points in the same general area.

BCAR ATS AP2 3.4 Name-code exclusivity

The name-code designator assigned to a significant point shall not be assigned to any other significant point. When there is a need to relocate a significant point, a new name-code designator shall be chosen. In cases when a State wishes to keep the allocation of specific name-codes for re-use at a different location, such name-codes shall not be used until after a period of at least six months.

BCAR ATS AP2 3.5 Notifying needs for name-code to ICAO

The needs of the air traffic services provider for name-coded designators shall be notified to the Regional Offices of ICAO for coordination.

BCAR ATS AP2 3.6 Significant points determined by WGS-84

In areas where no system of fixed routes is established or where the routes followed by aircraft vary depending on operational considerations, significant points shall be determined and reported in terms of World Geodetic System — 1984 (WGS-84) geographical coordinates, except that permanently established significant points serving as exit and/or entry points into such areas shall be designated in accordance with the applicable provisions in BCAR ATS AP2 2 o BCAR ATS AP2 3.

BCAR ATS AP2 4 Use of designators in communications

BCAR ATS AP2 4.1 Significant point in voice communication

Normally the name selected in accordance with BCAR ATS AP2 2 o BCAR ATS AP2 3 shall be used to refer to the significant point in voice communications. If the plain language name for a significant point marked by the site of a radio navigation aid selected in accordance with BCAR ATS AP2 2.1 is not used, it shall be replaced by the coded designator which, in voice communications, shall be spoken in accordance with the ICAO spelling alphabet.

BCAR ATS AP2 4.2 Printed and coded communications

In printed and coded communications the air traffic services provider shall use only the coded designator or the selected name-code to refer to a significant point.

BCAR ATS AP2 5 Significant points used for reporting purposes

BCAR ATS AP2 5.1 Significant points use as reporting points

In order to permit ATS to obtain information regarding the progress of aircraft in flight, the air traffic services provider shall select significant points to be designated as reporting points.

BCAR ATS AP2 5.2 Factors to consider for establishing report points

The air traffic services provider for establishing such points, shall consider the following factors:

a) the type of air traffic services provided;

b) the amount of traffic normally encountered;

c) the accuracy with which aircraft are capable of adhering to the current flight plan;

d) the speed of the aircraft;

e) the separation minima applied;

f) the complexity of the airspace structure;

g) the control method(s) employed;

h) the start or end of significant phases of a flight (climb, descent, change of direction, etc.);

i) transfer of control procedures;

j) safety and search and rescue aspects;

k) the cockpit and air-ground communication workload.

BCAR ATS AP2 5.3 Reporting points

Reporting points shall be established by the air traffic services provider either as “compulsory” or as “on-request”.

BCAR ATS AP2 5.4 Principles for the establishment of compulsory points

The air traffic services provider in establishing “compulsory” reporting points the following principles shall apply:

a) compulsory reporting points shall be limited to the minimum necessary for the routine provision of information to air traffic services units on the progress of aircraft in flight, bearing in mind the need to keep cockpit and controller workload and air-ground communications load to a minimum;

b) the availability of a radio navigation aid at a location shall not necessarily determine its designation as a compulsory reporting point;

c) compulsory reporting points shall not necessarily be established at flight information region or control area boundaries.

BCAR ATS AP2 5.5 “On request” reporting points

“On-request” reporting points shall be established in relation to the requirements of air traffic services for additional position reports when traffic conditions so demand.

BCAR ATS AP2 5.6 Reviewing designations of compulsory and on request reporting points

The air traffic services provider shall review the designation of compulsory and on-request reporting points regularly with a view to keeping the requirements for routine position reporting to the minimum necessary to ensure efficient air traffic services.

BCAR ATS AP2 5.7 Routine reporting over compulsory reporting points

Routine reporting over compulsory reporting points shall not systematically be made mandatory for all flights in all circumstances.

In applying this principle, particular attention shall be given to the following:

a) high-speed, high-flying aircraft shall not be required to make routine position reports

over all reporting points established as compulsory for low-speed, low-flying aircraft;

b) aircraft transiting through a terminal control area shall not be required to make routine position reports as frequently as arriving and departing aircraft.

BCAR ATS AP2 5.8 Reporting system with reference to meridians of longitude or parallels of latitude

In areas where the above principles regarding the establishment of reporting points would not be practicable, a reporting system with reference to meridians of longitude or parallels of latitude expressed in whole degrees shall be established.

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APPENDIX 3.
PRINCIPLES GOVERNING THE IDENTIFICATION OF STANDARD DEPARTURE AND ARRIVAL ROUTES AND ASSOCIATED PROCEDURES

(Véase la Subparte A, BCAR ATS 2.12.3)
(See IEM ATS APPENDIX 3)

BCAR ATS AP3 1 Designators for standard departure and arrival routes and associated procedures

The term “route” is used in the meaning of “route and associated procedures”.

BCAR ATS AP3 1.1 System of designators

The system of designators shall:

a) permit the identification of each route in a simple and unambiguous manner;

b) make a clear distinction between:

- departure routes and arrival routes;
- departure or arrival routes and other ATS routes;
- routes requiring navigation by reference to groundbased radio aids or self-contained airborne aids, and routes requiring navigation by visual reference to the ground;

c) be compatible with ATS and aircraft data processing and display requirements;

d) be of utmost brevity in its operational application;

e) avoid redundancy;

f) provide sufficient possibility for extension to cater for any future requirements without the need for fundamental changes.

BCAR ATS AP3 1.2 Plain language designator

The air traffic services provider shall identified each route by a plain language designator and a corresponding coded designator.

BCAR ATS AP3 1.3 Difficulties in pronunciation for pilots and air traffic controllers

The designators shall, in voice communications, be easily recognizable as relating to a standard departure or arrival route and shall not create any difficulties in pronunciation for pilots and air traffic controllers.

BCAR ATS AP3 2 Composition of designators

BCAR ATS AP3 2.1 Plain language designator

BCAR ATS AP3 2.1.1 Content of a plain language designator

The plain language designator of a standard departure or arrival route shall consist of:

a) a basic indicator; followed by

b) a validity indicator; followed by

c) a route indicator, where required; followed by

d) the word “departure” or “arrival”; followed by

e) the word “visual”, if the route has been established for use by aircraft operating in accordance with the visual flight rules (VFR).

BCAR ATS AP3 2.1.2 Name of the significant point

The basic indicator shall be the name or name-code of the significant point where a standard departure route terminates or a standard arrival route begins.

BCAR ATS AP3 2.1.3 Validity indicator

The validity indicator shall be a number from 1 to 9.

BCAR ATS AP3 2.1.4 Route indicator

The route indicator shall be one letter of the alphabet. The letters "I" and "O" shall not be used.

BCAR ATS AP3 2.2 Coded designator

The coded designator of a standard departure or arrival route, instrument or visual, shall consist of:

a) the coded designator or name-code of the significant point described in BCAR ATS AP3 2.1.1 a); followed by

b) the validity indicator in BCAR ATS AP3 2.1.1 b); followed by

c) the route indicator in BCAR ATS AP3 2.1.1 c), where required.

(See IEM ATS AP3 2.2)

BCAR ATS AP3 3 Asignment of designators

BCAR ATS AP3 3.1 Separate designators

Each route shall be assigned a separate designator

BCAR ATS AP3 3.2 Separate route indicator

To distinguish between two or more routes which relate to the same significant point (and therefore are assigned the same basic indicator), a separate route indicator as described in BCAR ATS AP3 2.1.4 shall be assigned to each route.

BCAR ATS AP3 4 Asignment of validity indicators

BCAR ATS AP3 4.1 Validity indicators

A validity indicator shall be assigned to each route to identify the route which is currently in effect.

BCAR ATS AP3 4.2 Secuencing of validity indicators

The first validity indicator to be assigned by the air traffic services provider shall be the number "1".

BCAR ATS AP3 4.3 Ammended routes

Whenever a route is amended, a new validity indicator, consisting of the next higher number, shall be assigned. The number "9" shall be followed by the number "1".

BCAR ATS AP3 5 Examples of plain language and coded designators

(See IEM ATS AP3 5)

BCAR ATS AP3 6 Composition of designators for ILS/RNAV approach procedures

BCAR ATS AP3 6.1 Plain language designator

BCAR ATS AP3 6.1.1 Content of the plain language designator

The plain language designator of an ILS/RNAV approach procedure shall consist of:

a) "ILS"; followed by

b) a basic indicator; followed by

c) a validity indicator; followed by

d) a route indicator; followed by

e) the word "approach"; followed by

f) the designator of the runway for which the procedure is designed.

BCAR ATS AP3 6.1.2 Significant point name

The basic indicator shall be the name or name-code of the significant point where the approach procedure begins.

BCAR ATS AP3 6.1.3 Validity indicator sequence

The validity indicator shall be a number from 1 to 9.

BCAR ATS AP3 6.1.4 Route indicator letter

The route indicator shall be one letter of the alphabet. The letters "I" and "O" shall not be used.

BCAR ATS AP3 6.1.5 Runway designator

El designador de la pista debe concordar con lo establecido en el BCAR 14.403(b)

BCAR ATS AP3 6.2 Coded designator

BCAR ATS AP3 6.2.1 Coded designator for approach procedures

The coded designator of an ILS/RNAV approach procedure shall consist of:

a) "ILS"; followed by

b) the coded designator or name-code of the significant point described in 6.1.1 b); followed by

c) the validity indicator in 6.1.1 c); followed by

d) the route indicator in 6.1.1 d); followed by

e) the runway designator in 6.1.1 f).

BCAR ATS AP3 6.3 Asignment of designators

BCAR ATS AP3 6.3.1 Asignment of designators for approach procedures

The assignment of designators for ILS/RNAV approach procedures shall be in accordance with paragraph 3. Procedures having identical tracks but different flight profiles shall be assigned separate route indicators.

BCAR ATS AP3 6.3.2 Unique assignment to all approach procedures

The route indicator letter for ILS/RNAV approach procedures shall be assigned uniquely to all approaches at an airport until all the letters have been used. Only then shall the route indicator letter be repeated. The use of the same route indicator for two routes using the same ILS ground facility shall not be permitted.

BCAR ATS AP3 6.3.3 assignment of validity indicator

The assignment of validity indicator for approach procedures shall be in accordance with paragraph 4.

BCAR ATS AP3 6.4 Example of plain language and coded designators
(See IEM ATS AP3 6.4)

BCAR ATS AP3 7 Use of designators in communications

BCAR ATS AP3 7.1 Voice communications

In voice communications, only the plain language designator shall be used.

For the purpose of identification of routes, the words "departure", "arrival" and "visual" described in BCAR ATS AP3 2.1.1 d) and BCAR ATS AP3 2.1.1 e) shall be considered to be an integral element of the plain language designator.

BCAR ATS AP3 7.2 Printed or coded communications

In printed or coded communications, only the coded designator shall be used.

BCAR ATS AP3 8 Display of routes and procedures to air traffic control

BCAR ATS AP3 8.1 Detailed description of standard departure and arrival approach procedures

A detailed description of each currently effective standard departure and/or arrival route/approach procedure, including the plain language designator and the coded designator, shall be displayed at the working positions at which the routes/procedures are assigned to aircraft as part of an ATC clearance, or are otherwise of relevance in the provision of air traffic control services.

BCAR ATS AP3 8.2 Graphic portrayal of the procedures

Whenever possible, a graphic portrayal of the routes/ procedures shall also be displayed.

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APPENDIX 4.
AERONAUTICAL DATA QUALITY REQUIREMENTS
Table 1. Latitude and longitude

Latitude and longitude	Accuracy date type	Integrity classification
Flight information region boundary points	2 km declared	1×10^{-3} routine
P, R, D area boundary points (outside CTA/CTZ boundaries).	2 km declared	1×10^{-3} routine
P, R, D area boundary points (inside CTA/CTZ boundaries)	100 m calculated	1×10^{-5} essential
CTA/CTZ boundary points	100 m calculated	1×10^{-5} essential
En-route navaids and fixes, holding, STAR/SID points .	100 m Surveyed/calculated	1×10^{-5} essential
Obstacles in Area 1 (the entire State territory). .	50 m surveyed	1×10^{-3} routine
Obstacles in Area 2 (the part outside the aerodrome/heliport boundary)	5 m surveyed	1×10^{-5} essential
Final approach fixes/points and other essential fixes/points comprising the instrument approach procedure	3 m Surveyed/calculated	1×10^{-5} essential

Table 2. Elevatión/altitude/height

Elevatión/altitude/height	Accuracy date type	Integrity classification
Threshold crossing height, precision approaches	0,5 m calculated	1×10^{-8} crítical
Obstacle clearance altitude/height (OCA/H).	as specified in PANS-OPS (Doc 8168	1×10^{-5} essential
Obstacles in Area 1 (the entire State territory), elevations	30m surveyed	1×10^{-3} routine
Obstacles in Area 2 (the part outside the aerodrome/heliport boundary) .	3m surveyed	1×10^{-5} essential
Distance measuring equipment (DME), elevation	30 m (100 ft) surveyed	1×10^{-5} essential
Instrument approach procedures altitude	as specified in PANS-OPS (Doc 8168)	1×10^{-5} essential
Minimum altitudes	50 m calculated	1×10^{-3} routine

Table 3. Declination and magnetic variation

Declination/variation	Accuracy Data type	Integrity classification
VHF NAVAID station declination used for technical line-up	1 degree surveyed	1×10^{-5} essential
NDB NAVAID magnetic variation	1 degree surveyed	1×10^{-3} routine

Table 4. Bearing

Bearing	Accuracy Data type	Integrity classification
Airway segments	1/10 degree calculated	1×10^{-3} routine
En-route and terminal fix formations	1/10 degree calculated	1×10^{-3} routine
Terminal arrival/departure route segments	1/10 degree calculated	1×10^{-3} routine
Instrument approach procedure fix formations	1/100 degree calculated	1×10^{-5} essential

Table 5. Length/distance/dimension

Length/distance/dimension	Accuracy Data type	Integrity classification
Airway segments length	1/10 km calculated	1×10^{-3} routine
En-route fix formations distance	1/10 km calculated	1×10^{-3} routine
Terminal arrival/departure route segments length	1/100 km calculated	1×10^{-5} essential
Terminal and instrument approach procedure fix formations distance	1/100 km calculated	1×10^{-5} essential

APPENDIX 5
ATS AIRSPACE CLASSES/SERVICES PROVIDED AND FLIGHT REQUIREMENTS

Airspace Class	Type of flight	Separation provided	Service provided	Speed limitation	Radio communication requierement	Subject to an ATC clearance
A	IFR only	All aircraft	Air traffic control service	Not applicable	Continuous two-way	Yes
B	IFR	All aircraft	Air traffic control service	Not applicable	Continuous two-way	Yes
	VFR	All aircraft	Air traffic control service	Not applicable	Continuous two-way	Yes
C	IFR	IFR from IFR IFR from VFR	Air traffic control service	Not applicable	Continuous two-way	Yes
	VFR	VFR from IFR	1. Air traffic control service separation from IFR; 2. VFR/VFR traffic information (and traffic avoidance advice on request)	250 kt IAS below 3050 m (10 000 ft) AMSL	Continuous two-way	Yes
D	IFR	IFR from IFR	Air traffic control service, traffic information about VFR flights (and traffic avoidance advice on request)	250 kt IAS below 3050 m (10 000 ft) AMSL	Continuous two-way	Yes
	VFR	NIL	IFR/VFR and VFR/VFR traffic information (and traffic avoidance advice on request)	250 kt IAS below 3050 m (10 000 ft) AMSL	Continuous two-way	Yes
E	IFR	IFR from IFR	Air traffic control service and, as far as practical, traffic information about VFR flights	250 kt IAS below 3050 m (10 000 ft) AMSL	Continuous two-way	Yes
	VFR	NIL	Traffic information as far as practical	250 kt IAS below 3050 m (10 000 ft) AMSL	No	No
F	IFR	IFR from IFR as far as practical	Air traffic advisory service; flight information service	250 kt IAS below 3050 m (10 000 ft) AMSL	Continuous two-way	No
	VFR	NIL	Flight information service	250 kt IAS below 3050 m (10 000 ft) AMSL	No	No
G	IFR	NIL	Flight information service	250 kt IAS below 3050 m (10 000 ft) AMSL	Continuous two-way	No
	VFR	NIL	Flight information service	250 kt IAS below 3050 m (10 000 ft) AMSL	No	No

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SECTION 2
IEM

SECTION 2

Interpretative and explanatory material (IEM)

1. GENERAL

1.1. If a specific parragraph does not have an IEM, it means that the parragraph does not need one.

2. PRESENTATION

2.1. The sequence after the abreviation IEM indicates the parragraph number of the refering BCAR-ATS.

2.2. The abreviations are defined as follows:

Interpretative and Explanatory Material (IEM) shows the ways or alternatives, but not necessarily the only posible way to comply with a specific paragraph of the BCAR-ATS.

BCAR ATS
SECTION 2

IEM ATS 1.0 Definitions.
(See Definitions)

Throughout the text of this document the term “service” is used as an abstract noun to designate functions, or service rendered; the term “unit” is used to designate a collective body performing a service.

The designation (RR) in these definitions indicates a definition which has been extracted from the Radio Regulations of the International Telecommunication Union (ITU) (see Handbook on Radio Frequency Spectrum Requirements for Civil Aviation including statement of approved ICAO policies (Doc 9718)).

Accident:
For statistical uniformity only, an injury resulting in death within thirty days of the date of the accident is classified as a fatal injury by ICAO.

An aircraft is considered to be missing when the official search has been terminated and the wreckage has not been located.

Accuracy:
For measured positional data the accuracy is normally expressed in terms of a distance from a stated position within which there is a defined confidence of the true position falling.

ADS-C agreement:
The terms of the agreement will be exchanged between the ground system and the aircraft by means of a contract, or a series of contracts.

Aerodrome traffic:

An aircraft is in the vicinity of an aerodrome when it is in, entering or leaving an aerodrome traffic circuit.

Air taxiing:
The actual height may vary, and some helicopters may require air-taxiing above 8 m (25 ft) AGL to reduce ground effect turbulence or provide clearance for cargo slingloads.

Air traffic control clearance:
For convenience, the term “air traffic control clearance” is frequently abbreviated to “clearance” when used in appropriate contexts.
The abbreviated term “clearance” may be prefixed by the words “taxi”, “take-off”, “departure”, “en route”, “approach” or “landing” to indicate the particular portion of flight to which the air traffic control clearance relates.

Air traffic services reporting office:
An air traffic services reporting office may be established as a separate unit or combined with an existing unit, such as another air traffic services unit, or a unit of the aeronautical information service.

Destination alternate:
The aerodrome from which a flight departs may also be an en-route or a destination alternate aerodrome for that flight.

Area navigation:
Area navigation includes performance-based navigation as well as other operations that do not meet the definition of performance-based navigation.

ATS Route:
The term “ATS route” is used to mean variously, airway, advisory route, controlled or uncontrolled route, arrival or departure route, etc.
An ATS route is defined by route specifications which include an ATS route designator, the track to or from significant points (waypoints), distance between significant points, reporting requirements and, as determined by the appropriate ATS authority, the lowest safe altitude.

Automatic dependent surveillance — contract (ADS-C).
The abbreviated term “ADS contract” is commonly used to refer to ADS event contract, ADS demand contract, ADS periodic contract or an emergency mode.

Base turns:
Base turns may be designated as being made either in level flight or while descending, according to the circumstances of each individual procedure.

Change-over points:
Change-over points are established to provide the optimum balance in respect of signal strength and quality between facilities at all levels to be used and to ensure a common source of azimuth guidance for all aircraft operating along the same portion of a route segment.

Controlled aerodrome:
The term “controlled aerodrome” indicates that air traffic control service is provided to aerodrome traffic but does not necessarily imply that a control zone exists.

Controlled airspace:
Controlled airspace is a generic term which covers ATS airspace Classes A, B, C, D and E as described in 2.6.

Flight level:
A pressure type altimeter calibrated in accordance with the Standard Atmosphere:

a) when set to a QNH altimeter setting, will indicate altitude;

b) when set to a QFE altimeter setting, will indicate height above the QFE reference datum;

c) when set to a pressure of 1 013.2 hPa, may be used to indicate flight levels.

The terms “height” and “altitude”, used above, indicate altimetric rather than geometric heights and altitudes.

Flight plan:
Specifications for flight plans are contained in Annex 2. When the expression “flight plan form” is used it denotes the model flight plan form at Appendix 2 to the PANS-ATM.

Gregorian calendar:
In the Gregorian calendar, common years have 365 days and leap years 366 days divided into twelve sequential months.

Incident:
The types of incidents which are of main interest to the International Civil Aviation Organization for accident prevention studies are listed in the Accident/Incident Reporting Manual (ADREP Manual) (Doc 9156).

Instrument meteorological conditions:
The specified minima for visual meteorological conditions are contained in Annex 2.

RNAV specification:

The Performance-Based Navigation Manual (Doc 9613), Volume II, contains detailed guidance on navigation specifications.

Performance based navigation:
Performance requirements are expressed in navigation specifications (RNAV specification, RNP specification) in terms of accuracy, integrity, continuity, availability and functionality needed for the proposed operation in the context of a particular airspace concept.

SUBPART A
CHAPTER 2
GENERAL

IEM ATS 2.1.1 Air traffic services provisions
(See 2.1.1)
The State of Belize has delegated on COCESNA the responsibility to established and provide air traffic services above flight level 200 and in the flight information regions and areas define by the State of Belize in regional agreement and in aeronautical information documents.
The phrase “regional air navigation agreements”refers to the agreements approved by the Council of ICAO normally on the advice of Regional Air Navigation Meetings.

IEM ATS 2.1.3 Authority responsable for establishing and providing ATS
(See 2.1.3)
Situations which arise in respect of the establishment and provision of air traffic services to either part or whole of an international flight are as follows:

Situation 1: A route, or portion of a route, contained within airspace under the sovereignty of a State establishing and providing its own air traffic services.

Situation 2: A route, or portion of a route, contained within airspace under the sovereignty of a State which has, by mutual agreement, delegated to another State, responsibility for the establishment and provision of air traffic services.

Situation 3: A portion of a route contained within airspace over the high seas or in airspace of undetermined sovereignty for which a State has accepted the responsibility for the establishment and provision of air traffic services.

For the purpose of this BCAR, the State which designates the authority responsible for establishing and providing the air traffic services is:

in Situation 1: the State having sovereignty over the relevant portion of the airspace;

in Situation 2: the State to whom responsibility for the establishment and provision of air traffic services has been delegated;

in Situation 3: the State which has accepted the responsibility for the establishment and provision of air traffic services.

IEM ATS 2.4.1 Elements to determine the need of the air traffic services
(See 2.4.1)
Due to the number of elements involved, it has not been possible to develop specific data to determine the need for air traffic services in a given area or at a given location.
For example:

a) a mixture of different types of air traffic with aircraft of varying speeds (conventional jet, etc.) might necessitate the provision of air traffic services, whereas a relatively greater density of traffic where only one type of operation is involved would not;

b) meteorological conditions might have considerable effect in areas where there is a constant flow of air traffic (e.g. scheduled traffic), whereas similar or worse meteorological conditions might be relatively unimportant in an area where air traffic would be discontinued in such conditions (e.g. local VFR flights);

c) open stretches of water, mountainous, uninhabited or desert areas might necessitate the provision of air traffic services even though the frequency of operations is extremely low.

IEM ATS 2.6.3 Requirements for flights within each class of airspace
(See 2.6.3)
The requirements for flights within each class of airspace shall be as shown in the table in Appendix 5 of BCAR ATS.
Where the ATS airspaces adjoin vertically, i.e. one above the other, flights at a common level would comply with requirements of, and be given services applicable to, the less restrictive class of airspace. In applying these criteria, Class B airspace is therefore considered less restrictive than Class A airspace; Class C airspace less restrictive than Class B airspace, etc.

IEM ATS 2.7.3 Prescribed navigation specification
(See 2.7.3)
Applicable guidance on performance-based navigation and implementation is published in the Performance-Based Navigation Manual (Doc 9613).

IEM ATS 2.8.2 Appropiate RCP types for ATS.
(See 2.8.2)
Applicable RCP types and associated procedures will be published in the Manual on Required Communication Performance (RCP) (Doc 9869) which is in preparation.

IEM ATS 2.10.1 Delineation of airspace.
(See 2.10.1)
The delineation of airspace, wherein air traffic services are to be provided, should be related to the nature of the route structure and the need for efficient service rather than to national boundaries.

Agreements to permit the delineation of airspace lying across national boundaries are advisable when such action will facilitate the provision of air traffic services (see 2.1.1). Agreements which permit delineation of airspace boundaries by straight lines will.

Where delineation of airspace is made by reference to national boundaries there is a need for suitably sited transfer points to be mutually agreed upon.

IEM ATS 2.10.2.3 Upper and lower limit of a flight information region
(See 2.10.2.3)
In cases where an upper flight information region is established the procedures applicable therein need not be identical with those applicable in the underlying flight information region.

Appendix to BCAR ATS 2.9.2.3 TABLE OF CRUISING LEVELS

The cruising levels to be observed when so required by this Annex are as follows:

a) in areas where, on the basis of regional air navigation agreements and in accordance with conditions specified therein, a vertical separation minimum (VSM) of 300 m (1 000 ft) is applied between FL 290 and FL 410 inclusive:*

TRACK												
From 000 degrees to 179 degrees						From 180 degrees to 359 degrees					
IFR Flights			VFR Flights			IFR Flights			VFR Flights		
FL	ALTITUD		FL	ALTITUD		FL	ALTITUD		FL	ALTITUD	
	metres	feet		metres	feet		metres	feet		metres	feet
10	300	1000	-	-	-	20	600	2 000			
30	900	3 000	35	1 050	3 500	40	1 200	4 000	45	1 350	4 500
50	1 500	5 000	55	1 700	5 500	60	1 850	6 000	65	2 000	6 500
70	2 150	7 000	75	2 300	7 500	80	2 450	8 000	85	2 600	8 500
90	2 750	9 000	95	2 900	9 500	100	3 050	10 000	105	3 200	10 500
110	3 350	11 000	115	3 500	11 500	120	3 650	12 000	125	3 800	12 500
130	3 950	13 000	135	4 100	13 500	140	4 250	14 000	145	4 400	14 500
150	4 550	15 000	155	4 700	15 500	160	4 900	16 000	165	5 050	16 500
170	5 200	17 000	175	5 350	17 500	180	5 500	18 000	185	5 650	18 500
190	5 800	19 000	195	5 950	19 500	200	6 100	20 000			
210	6 400	21 000				220	6 700	22 000			
230	7 000	23 000				240	7 300	24 000			
250	7 600	25 000				260	7 900	26 000			
270	8 250	27 000				280	8 550	28 000			
290	8 850	29 000				300	9 150	30 000			
310	9 450	31 000				320	9 750	32 000			
330	10 050	33 000				340	10 350	34 000			
350	10 650	35 000				360	10 950	36 000			
370	11 300	37 000				380	11 600	38 000			
390	11 900	39 000				400	12 200	40 000			
410	12 500	41 000				430	13 100	43 000			
450	13 700	45 000				470	14 350	47 000			
490	14 950	49 000				510	15 550	51 000			
etc.	etc.	etc.				etc.	etc.	etc.			

* Except when, on the basis of regional air navigation agreements, a modified table of cruising levels based on a nominal Seetical separation minimum of 300 m (1 000 ft) is prescribed for use, under specified conditions, by aircraft operating above FL 410 within designated portionsof the airspace.

IEM ATS 2.10.3.2 Establishment of a lower limit for a control area.
(See 2.10.3.2)
This does not imply that the lower limit has to be established uniformly in a given control area (see Figure A-5 of the Air Traffic Services Planning Manual (Doc 9426), Part I, Section 2, Chapter 3).

IEM ATS 2.10.4 Flight information regions or control areas in the upper airspace.
(See 2.10.4)
Where it is desirable to limit the number of flight information regions or control areas through which high flying aircraft would otherwise have to operate, a flight information region or control area, as appropriate, shall be delineated to include the upper airspace within the lateral limits of a number of lower flight information regions or control areas.

IEM ATS 2.10.5.5 Upper limit of a control zone from a control area.
(See 2.10.5.5)
This implies that, if used, the selected VFR cruising level be such that expected local atmospheric pressure variations do not result in a lowering of this limit to a height of less than 200 m (700 ft) above ground or water

IEM ATS 2.12.5 Standard departure and arrival routes identification.
(See 2.12.5)
Guidance material relating to the establishment of ATS routes is contained in the Air Traffic Services Planning Manual (Doc 9426).
The spacing between parallel tracks or between parallel ATS route centre lines based on performance-based navigation will be dependent upon the relevant navigation specification required.

IEM ATS 2.18.2 Objective of the coordination of potentially hazardous activities.
(See 2.18.2)
The objective of the coordination shall be to achieve the best arrangements which will avoid hazards to civil aircraft and minimize interference with the normal operations of such aircraft.

IEM ATS 2.18.5 Hazardous effects of laser beams in flight operations.
(See 2.18.5)
Guidance material regarding the hazardous effects of laser emitters on flight operations is contained in the Manual on Laser Emitters and Flight Safety (Doc 9815).
See also Annex 14 — Aerodromes, Volume I — Aerodrome Design and Operations, Chapter 5.

IEM ATS 2.19.1 Determination and reporting of aeronautical data
(See 2.19.1)
Specifications governing the quality system are given in Annex 15, Chapter 3.

IEM ATS 2.19.6 Accuracy of the topographic work.
(See 2.19.6)
An appropriate reference frame is that which enables WGS-84 to be realized on a given position and with respect to which all coordinate data are related. For those fixes and points that are serving a dual purpose, e.g. holding point and missed approach point, the higher accuracy applies.
Specifications goSeening the publication of aeronautical data are given in BCAR ANS (Annex 4, Chapter 2 and Annex 15, Chapter 3).

IEM ATS 2.20.1 Arrangements between meteorological and air traffic services personnel.
(See 2.20.1)
VAACs are designated by regional air navigation agreements in accordance with Annex 3, Chapter 3, 3.5.1.

IEM ATS 2.21.4 Responsability of the air traffic services for the provision of raw aeronautical information.
(See 2.21.4)
Specifications for the issue of a NOTAM and ASHTAM are contained in Annex 15, Chapter 5. Reports of volcanic activity comprise the information detailed in Annex 3, Chapter 4. AIRAC information is distributed by the aeronautical information service at least 42 days in advance of the AIRAC effective dates with the objective of reaching recipients at least 28 days in advance of the effective date. The schedule of the predetermined, internationally agreed AIRAC common effective dates at intervals of 28 days, including 6 November 1997, and guidance for the AIRAC use are contained in the Aeronautical Information Services Manual (Doc 8126, Chapter 2,2.6).

IEM ATS 2.22 Minimum flight altitudes.
(See 2.22)
The minimum flight altitudes determined shall provide a minimum clearance above the controlling obstacle located within the areas concerned.

The requirements for publication by ATS providers of minimum flight altitudes and of the criteria used to determine them are contained in BCAR 15). Detailed obstacle clearance criteria are contained in PANS-OPS (Doc 8168), Volume II.

IEM ATS 2.23.1.1 Human factors in case of emergency.
(See 2.23.1.1)
Guidance material on Human Factors principles can be found in the Human Factors Training Manual (Doc 9683).

IEM ATS 2.23.3 Informing of an unlawful interference
(See 2.23.3)
A strayed or unidentified aircraft may be suspected as being the subject of unlawful interference. See ATS Procedures Manual Section IV, chapter 2.

IEM ATS 2.24.1 Strayed or unidentified aircraft
(See 2.24.1)
The terms “strayed aircraft” and “unidentified aircraft” in this paragraph have the following meanings:

Strayed aircraft. An aircraft which has deviated significantly from its intended track or which reports that it is lost.

Unidentified aircraft. An aircraft which has been observed or reported to be operating in a given area but whose identity has not been established.

An aircraft may be considered, at the same time, as a “strayed aircraft” by one unit and as an “unidentified aircraft” by another unit.

A strayed or unidentified aircraft may be suspected as being the subject of unlawful interference

IEM ATS 2.27.2 Lines of safety accountability throughout the air traffic services provider
(See 2.27.2)
Guidance on safety management systems is contained in the Safety Management Manual (SMM) (Doc 9859), and associated procedures are contained in the PANS-ATM (Doc 4444)

IEM ATS 2.27.3 Significant safety-related changes to the ATS.
(See 2.27.3)
When, due to the nature of the change, the acceptable level of safety cannot be expressed in quantitative terms, the safety assessment may rely on operational judgment

IEM ATS 2.28.1 Horizontal reference system
(See 2.28.1)
Comprehensive guidance material concerning WGS-84 is contained in the World Geodetic System — 1984 (WGS-84) Manual (Doc 9674).

IEM ATS 2.28.2 Vertical reference system
(See 2.28.2)
The geoid globally most closely approximates MSL. It is defined as the equipotential surface in the gravity field of the Earth which coincides with the undisturbed MSL extended continuously through the continents.

IEM ATS 2.30.1 Contingency plans
(See 2.30.1)
Guidance material relating to the development, promulgation and implementation of contingency plans is contained in Annex 11, Attachment C.
Contingency plans may constitute a temporary deviation from the approved regional air navigation plans; such deviations are approved, as necessary, by the President of the ICAO Council on behalf of the Council

IEM ATS 2.31 ATS Quality Assurance Programme
(See 2.31)
The ATS quality assurance programme as a minimun should contained what is established in ICAO's CAR/SAM regional guidance material for ATS quality assurance programmes.

IEM ATS 2.32 ATS operational procedures manual
(See 2.32)
The ATS operational procedures manual as a minimum should contain the following structure:

1. Preamble
2. Generalities
3. ATS operational functions
4. ATS operational procedures
5. Methods and separation minima
6. ATS surveillance services
7. Flight information services
8. Alert services
9. Coordination
10. ATS messages
11. Phraseology and aeronautical symbols
12. Emergencies, communication failures and contingency procedures

IEM ATS 2.36 Identification and delineation of prohibited, restricted and danger areas
(See 2.36)

IEM ATS 2.36.1 Identification of the areas
See Annex 15, Appendix 1, ENR 5.1.

IEM ATS 2.36.3 Composing the identification of the area
Nationality letters are those contained in Location Indicators (Doc 7910).

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SUBPART B
CHAPTER 3
AIR TRAFFIC CONTROL SERVICE

IEM ATS 3.2 Provision of air traffic control service
(See 3.2)
The task of providing specified services on the apron, e.g. apron management service, may be assigned to an aerodrome control tower or to a separate unit**.**

IEM ATS 3.3.3 Devices that record background communication and the aural environment at air traffic controller work stations
(See 3.3.3)
Provisions related to the non-disclosure of recordings and transcripts of recordings from air traffic control units are contained in Annex 13, 5.12.

IEM ATS 3.3.5 Composite separation
(See 3.3.5)
Guidance material relating to the implementation of composite lateral/Seetical separation is contained in the Air Traffic Services Planning Manual (Doc 9426).

IEM ATS 3.3.5.1 Establishment of a program in RVSM airspace.
(See 3.3.5.1)
The number of separate monitoring programmes should be restricted to the minimum necessary to effectively provide the required services for the region.

IEM ATS 3.3.5.2 Sharing data from monitoring programmes.
(See 3.3.5.2)
Guidance material relating to Vertical separation and monitoring of height-keeping performance is contained in the Manual on Implementation of a 300 m (1 000 ft) Vertical Separation Minimum between FL 290 and FL 410 Inclusive (Doc 9574).

IEM ATS 3.6.1.3.1 Arriving aircraft.
(See 3.6.1.3.1)
Even though there is an approach control unit, control of certain flights may be transferred directly from an area control centre to an aerodrome control tower and vice Seesa, by prior arrangement between the units concerned for the relevant part of approach control service to be provided by the area control centre or the aerodrome control tower, as applicable.

IEM ATS 3.7.1.1 Contents of clearances.
(See 3.7.1.1)
If the clearance for the levels coSees only part of the route, it is important for the air traffic control unit to specify a point to which the part of the clearance regarding levels applies wheneSee necessary to ensure compliance with 3.6.5.2.2 a) of Annex 2.

IEM ATS 3.7.1.2 Standard departure and arrival routes
(See 3.7.1.2)
Material relating to the establishment of standard departure and arrival routes and associated procedures is contained in the Air Traffic Services Planning Manual (Doc 9426). The design criteria are contained in PANS-OPS, Volume II (Doc 8168).

IEM ATS 3.7.3.2 Read back of messages CPDLC
(See 3.7.3.2)

The procedures and provisions relating to the exchange and acknowledgement of CPDLC messages are contained in Annex 10, Volume II, and PANS-ATM, Chapter 14.

IEM ATS 3.7.4.2.1.3 Downstream clearances and aircraft's original flight profile
(See 3.7.4.2.1.3)
Requirements relating to the application of downstream clearance deliSeey service are specified in BCAR ANS (Annex 10, Volume II). Guidance material is contained in the Manual of Air Traffic Services Data Link Applications (Doc 9694).

IEM ATS 3.7.5.1 Implementing air traffic flow management (ATFM)
(See 3.7.5.1)
In Doc. 4444 Chapter 3, there is guidance in how to determine the ATS capacity and development of the air traffic flow management.

IEM ATS 3.10 Use of surface movement radar (SMR)
(See 3.10)
Surface movement radar (SMR) provided in accordance with the provisions of Annex 14, Volume I, or other suitable surveillance equipment, should be utilized to monitor the movement of aircraft and vehicles on the manoeuvring area; provide directional information to pilots and vehicle drivers as necessary; and provide advice and assistance for the safe and efficient movement of aircraft and vehicles on the manoeuvring area.

CHAPTER 4
FLIGHT INFORMATION SERVICE

IEM ATS 4.1.2 Preference of the air traffic control service over the flight information services.
(See 4.1.2)
It is recognized that in certain circumstances aircraft on final approach, landing, take-off and climb may require to receive without delay essential information other than that pertaining to the provision of air traffic control service.

IEM ATS 4.2.2 Elements include in the flight information service
(See 4.2.2)
The information in b), including only known aircraft the presence of which might constitute a collision hazard to the aircraft informed, will sometimes be incomplete and air traffic services cannot assume responsibility for its issuance at all times or for its accuracy
When there is a need to supplement collision hazard information provided in compliance with b), or in case of temporary disruption of flight information service, traffic information broadcasts by aircraft may be applied in designated airspaces. Guidance on traffic information broadcasts by aircraft and related operating procedures is contained as follows.

TRAFFIC INFORMATION BROADCASTS BY AIRCRAFT (TIBA) AND RELATED OPERATING PROCEDURES

1. Introduction and applicability of broadcasts

1.1 Traffic information broadcasts by aircraft are intended to permit reports and relevant supplementary information of an advisory nature to be transmitted by pilots on a

designated VHF radiotelephone (RTF) frequency for the information of pilots of other aircraft in the vicinity.

1.2 TIBAs should be introduced only when necessary and as a temporary measure.

1.3 The broadcast procedures should be applied in designated airspace where:

a) there is a need to supplement collision hazard information provided by air traffic services outside controlled airspace; or

b) there is a temporary disruption of normal air traffic services.

1.4 Such airspaces should be identified by the States responsible for provision of air traffic services within these airspaces, if necessary with the assistance of the appropriate ICAO Regional Office(s), and duly promulgated in aeronautical information publications or NOTAM, together with the VHF RTF frequency, the message formats and the procedures to be used. Where, in the case of 1.3 a), more than one State is involved, the airspace should be designated on the basis of regional air navigation agreements and promulgated in Doc 7030.

1.5 When establishing a designated airspace, dates for the review of its applicability at intervals not exceeding 12 months should be agreed by the appropriate ATS authority (ies).

2. Details of broadcasts

2.1 VHF RTF frequency to be used

2.1.1 The VHF RTF frequency to be used should be determined and promulgated on a regional basis. HoweSee, in the case of temporary disruption occurring in controlled airspace, the States responsible may promulgate, as the VHF RTF frequency to be used within the limits of that airspace, a frequency used normally for the provision of air traffic control service within that airspace.

2.1.2 Where VHF is used for air-ground communications with ATS and an aircraft has only two serviceable VHF sets, one should be tuned to the appropriate ATS frequency and the other to the TIBA frequency.

2.2 Listening watch

A listening watch should be maintained on the TIBA frequency 10 minutes before entering the designated airspace until leaving this airspace. For an aircraft taking off from an aerodrome located within the lateral limits of the designated airspace listening watch should start as soon as appropriate after take-off and be maintained until leaving the airspace.

2.3 Time of broadcasts

A broadcast should be made:

a) 10 minutes before entering the designated airspace or, for a pilot taking off from an aerodrome located within the lateral limits of the designated airspace, as soon as appropriate after take-off;
b) 10 minutes prior to crossing a reporting point;

c) 10 minutes prior to crossing or joining an ATS route;

d) at 20-minute intervals between distant reporting points;

e) 2 to 5 minutes, where possible, before a change in flight level;

f) at the time of a change in flight level; and

g) at any other time considered necessary by the pilot.

2.4 Forms of broadcast

2.4.1 The broadcasts other than those indicating changes in flight level, i.e. the broadcasts referred to in 2.3 a), b), c), d) and g), should be in the following form:

ALL STATIONS (necessary to identify a traffic information broadcast)

(call sign)

FLIGHT LEVEL (number) (or CLIMBING* TO FLIGHT LEVEL (number))

(direction)

(ATS route) (or DIRECT FROM (position) TO (position))

POSITION (position**) AT (time)

ESTIMATING (next reporting point, or the point of crossing or joining a designated ATS route) AT (time)

(call sign)

FLIGHT LEVEL (number)

(direction)

Fictitious example:
"ALL STATIONS WINDAR 671 FLIGHT LEVEL 350 NORTHWEST BOUND DIRECT FROM PUNTA SAGA TO PAMPA POSITION 5040 SOUTH 2010 EAST AT 2358 ESTIMATING CROSSING ROUTE LIMA THREE ONE AT 4930 SOUTH 1920 EAST AT 0012 WINDAR 671 FLIGHT LEVEL 350 NORTHWEST BOUND OUT"

2.4.2 Before a change in flight level, the broadcast (referred to in 2.3 e)) should be in the following form:

ALL STATIONS

(call sign)

(direction)

(ATS route) (or DIRECT FROM (position) TO (position))

LEAVING FLIGHT LEVEL (number) FOR FLIGHT LEVEL (number) AT (position and time)

2.4.3 Except as provided in 2.4.4, the broadcast at the time of a change in flight level (referred to in 2.3 f)) should be in the following form:

ALL STATIONS

(call sign)

(direction)

(ATS route) (or DIRECT FROM (position) TO (position))

LEAVING FLIGHT LEVEL (number) NOW FOR FLIGHT LEVEL (number)

followed by:

ALL STATIONS

(call sign)

MAINTAINING FLIGHT LEVEL (number)

2.4.4 Broadcasts reporting a temporary flight level change to avoid an imminent collision risk should be in the following form:

ALL STATIONS

(call sign)

LEAVING FLIGHT LEVEL (number) NOW FOR FLIGHT LEVEL (number)

followed as soon as practicable by:

ALL STATIONS
(call sign)

RETURNING TO FLIGHT LEVEL (number) NOW

2.5 Acknowledgement of the broadcasts

The broadcasts should not be acknowledged unless a potential collision risk is perceived.

3. Related operating procedures

3.1 Changes of cruising level

3.1.1 Cruising level changes should not be made within the designated airspace, unless considered necessary by pilots to avoid traffic conflicts, for weather avoidance or for other valid operational reasons.

3.1.2 When cruising level changes are unavoidable, all available aircraft lighting which would improve the visual detection of the aircraft should be displayed while changing levels.

3.2 Collision avoidance

If, on receipt of a traffic information broadcast from another aircraft, a pilot decides that immediate action is necessary to avoid an imminent collision risk, and this cannot be achieved in accordance with the right-of-way provisions of Annex 2, the pilot should:

a) unless an alternative manoeuvre appears more appropriate, immediately descend 150 m (500 ft), or 300 m (1 000 ft) if above FL 290 in an area where a Seetical separation minimum of 600 m (2 000 ft) is applied;

b) display all available aircraft lighting which would improve the visual detection of the aircraft;

c) as soon as possible, reply to the broadcast advising action being taken;

d) notify the action taken on the appropriate ATS frequency; and

e) as soon as practicable, resume normal flight level, notifying the action on the appropriate ATS frequency.

3.3 Normal position reporting procedures

Normal position reporting procedures should be continued at all times, regardless of any action taken to initiate or acknowledge a traffic information broadcast.

IEM ATS 4.3.2.2 Whenever OFIS broadcasts are provided.
(See 4.3.2.2)
Guidance material on human performance can be found in the Human Factors Training Manual (Doc 9683)

IEM ATS 4.3.3.2 Whenever VHF broadcasts are provided.
(See 4.3.3.2)
Guidance material on human performance can be found in the Human Factors Training Manual (Doc 9683).

IEM ATS 4.3.4.5 Knowing Air traffic units ATIS information.
(See 4.3.4.5)
The requirements for the provision of ATIS that applies to both Voice-ATIS and D-ATIS are contained in BCAR ATS 4.3.6 below.

CHAPTER 6
AIR TRAFFIC SERVICES REQUIREMENTS FOR COMMUNICATIONS

IEM ATS 6.1.1.2 RCP types for ATM functions
(See 6.1.1.2)
Information on RCP and associated procedures, and guidance concerning the approval process, will be contained in the Manual on Required Communication Performance (RCP) (Doc 9869) (in preparation). This document also contains references to other documents produced by States and international bodies concerning communication systems and RCP.

IEM ATS 6.1.1.3 Recording facilities
(See 6.1.1.3)
Requirements for retention of all automatic recordings of communications in ATC are specified in BCAR ANS (Annex 10, Volume II, 3.5.1.5).

IEM ATS 6.2.1.1 Direct speech or data link communication
(See 6.2.1.1)
Indication by time of the speed with which the communication should be established is provided as a guide to communication services, particularly to determine the types of communication channels required, e.g. that “instantaneous” is intended to refer to communications which effectively provide for immediate access between controllers; “fifteen seconds” to accept switchboard operation and “five minutes” to mean methods involving retransmission.

IEM ATS 6.2.3.2 Connected adjacent ATS units
(See 6.2.3.2)
Special circumstances may be due to traffic density, types of aircraft operations and/or the manner in which the airspace is organized and may exist even if the control areas and/or control zones are not contiguous or have not (yet) been established.

CHAPTER 7
AIR TRAFFIC SERVICES REQUIREMENTS FOR INFORMATION

IEM ATS 7.1.1.2 Detailed information of meteorological phenomena
(See 7.1.1.2)
The meteorological phenomena are listed in BCAR ANS (Annex 3, Chapter 4, 4.6.8).

IEM ATS 7.1.2.1 SIGMET and AIRMET reports
(See 7.1.2.1)
For the purpose of this provision, certain changes in meteorological conditions are construed as deterioration in a weather element, although they are not ordinarily considered as such. An increase in temperature may, for example, adversely affect the operation of certain types of aircraft.

IEM ATS 7.1.3.6 Wind shear information
(See 7.1.3.6)
Provisions concerning the issuance of wind shear warnings and alerts and ATS requirements for meteorological information are given in BCAR ANS (Annex 3, Chapter 7 and Appendices 6 and 9).

IEM ATS 7.1.4.7 Aerodrome warnings
(See 7.1.4.7)

The meteorological conditions for which aerodrome warnings are issued are listed in BCAR ANS (Annex 3, Appendix 6, 5.1.3).

IEM ATS 7.3.2 Information on the operational status, and any changes of radio navigation services and visual aids

(See 7.3.2)

Guidance material regarding the provision of information to ATS units in respect to visual and non-visual navigation aids is contained in the Air Traffic Services Planning Manual (Doc 9426). Specifications for monitoring visual aids are contained in Annex 14, Volume I, and related guidance material is in the Aerodrome Design Manual (Doc 9157), Part 5. Specifications for monitoring non-visual aids are contained in BCAR ANS (Annex 10, Volume I).

IEM ATS 7.5.2 Volcanic ash advisory information issued by the associated VAAC.

(See 7.5.2)

VAACs are designated by regional air navigation agreements in accordance with BCAR ANS (Annex 3, 3.5.1)

APPENDIX 1

PRINCIPLES GO**VER**NING THE IDENTIFICATION OF NAVIGATION SPECIFICATIONS AND THE IDENTIFICATION OF ATS ROUTES OTHER THAN STANDARD DEPARTURE AND ARRIVAL ROUTES

IEM ATS **APPENDIX 1**

See Appendix 3 concerning the identification of standard departure and arrival routes and associated procedures. Guidance material on the establishment of these routes and procedures is contained in the Air Traffic Services Planning Manual (Doc 9426).

IEM ATS AP1 1.1 **Purpose of a system of route designators and navigation specification**

Specifications governing the publication of navigation specifications are given in BCAR ANS (Annex 4, Chapter 7, and Annex 15, Appendix 1).

In relation to this appendix and for flight planning purposes, a prescribed navigation specification is not considered an integral part of the ATS route designator

IEM ATS AP1 2.4 Indicates the type of service provided

Due to limitations in the display equipment on board aircraft, the supplementary letters “F” or “G”may not be displayed to the pilot

Implementation of a route or a portion thereof as controlled route, advisory route or flight information route is indicated in aeronautical charts and aeronautical information publications in accordance with the provisions in BCAR ANS (Annexes 4 and 15).

APPENDIX 3
PRINCIPLES GOVERNING THE IDENTIFICATION OF STANDARD DEPARTURE AND ARRIVAL ROUTES AND ASSOCIATED PROCEDURES

IEM ATS APPENDIX 3

Material relating to the establishment of standard departure and arrival routes and associated procedures is contained in the Air Traffic Services Planning Manual (Doc 9426).

IEM ATS AP3 2.2 **Coded designator**

Limitations in the display equipment on board aircraft may require shortening of the basic indicator, if that indicator is a five-letter name-code, e.g. KODAP. The manner in which such an indicator is shortened is left to the discretion of operators.

IEM ATS AP3 5 **Examples of plain language and coded designators**

5.1 Example 1: Standard departure route — instrument:

a) Plain language designator: BRECON ONE DEPARTURE

b) Coded designator: BCN 1

5.1.1 Meaning: The designator identifies a standard instrument departure route which terminates at the significant point BRECON (basic indicator). BRECON is a radio navigation facility with the identification BCN (basic indicator of the coded designator). The validity indicator ONE (1 in the coded designator) signifies either that the original version of the route is still in effect or that a change has been made from the previous version NINE (9) to the now effective version ONE (1) (see 4.3). The absence of a route indicator (see 2.1.4 and 3.2) signifies that only one route, in this case a departure route, has been established with reference to BRECON.

5.2 Example 2: Standard arrival route — instrument:

a) Plain language designator: KODAP TWO ALPHA ARRIVAL

b) Coded designator: KODAP 2 A

5.2.1 Meaning: This designator identifies a standard instrument arrival route which begins at the significant point KODAP (basic indicator). KODAP is a significant point not marked by the site of a radio navigation facility and therefore assigned a five-letter name-code in accordance with Appendix 2. The validity indicator TWO (2) signifies that a change has been made from the previous version ONE (1) to the now effective version TWO (2). The route indicator ALPHA (A) identifies one of several routes established with reference to KODAP and is a specific character assigned to this route.

5.3 Example 3: Standard departure route — visual:

a) Plain language designator: ADOLA FIVE BRAVO DEPARTURE VISUAL

b) Coded designator: ADOLA 5 B

5.3.1 Meaning: This designator identifies a standard departure route for controlled VFR flights which terminates at ADOLA, a significant point not marked by the site of a radio navigation facility. The validity indicator FIVE (5) signifies that a change has been made from the previous version FOUR (4) to the now effective version FIVE (5). The route indicator BRAVO (B) identifies one of several routes established with reference to ADOLA.

IEM ATS AP3 6.4 **Example of plain language and coded designators**

6.4.1 Example:

a) Plain language designator:	ILS HAPPY ONE ALPHA APPROACH RUNWAY ONE EIGHT LEFT
b) Coded designator:	ILS HAPPY 1 A 18L

6.4.2 *Meaning:* The designator identifies an MLS/RNAV approach procedure which begins at the significant point HAPPY (basic indicator). HAPPY is a significant point not marked by the site of a radio navigation facility and therefore assigned a five-letter name-code in accordance with Appendix 2. The validity indicator ONE (1) signifies that either the original version of the route is still in effect or a change has been made from the previous version NINE (9) to the now effective version ONE (1). The route indicator ALPHA (A) identifies one of several routes established with reference to HAPPY and is a specific character assigned to this route.