

Civil Aviation Authority of Bangladesh

Gazette

Dhaka, January 2024

In exercise of the power conferred by Section 47, read with Section 14 of the Civil Aviation Act 2017(Act No.18 of 2017), hereinafter referred as the “Act”, the Chairman of Civil Aviation Authority of Bangladesh is pleased to issue the following Air Navigation Order ANO18- Safe Transportation of Dangerous Goods by Air.

It shall come into force with immediate effect.

1. Short title, extent and application –

- (1) This ANO may be called the ANO 2 (Rules of the Air).
- (2) They shall come into force on the date of their final publication in the Official Gazette.

CHAPTER 1. DEFINITION

Acrobatic flight. Manoeuvres intentionally performed by an aircraft involving an abrupt change in its attitude, an abnormal attitude, or an abnormal variation in speed.

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).

Note.— 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.

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.

Note.— An aircraft is in the vicinity of an aerodrome when it is in, entering or leaving an aerodrome traffic circuit.

Aerodrome traffic zone. An airspace of defined dimensions established around an aerodrome for the protection of aerodrome traffic.

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 station (RR SI.81). A land station in the aeronautical mobile service. In certain instances, an aeronautical station may be located, for example, on board ship or on a platform at sea.

Aeroplane. A power-driven heavier-than-air aircraft, deriving its lift in flight chiefly from aerodynamic reactions on surfaces which remain fixed under given conditions of flight.

Airborne collision avoidance system (ACAS). An aircraft system based on secondary surveillance radar (SSR) transponder signals which operates independently of ground-based 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 control radio station. An aeronautical telecommunication station having primary responsibility for handling communications pertaining to the operation and control of aircraft in a given area.

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).

Note.— 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. 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.

Note 1.— For convenience, the term “air traffic control clearance” is frequently abbreviated to “clearance” when used in appropriate contexts.

Note 2.— 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 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 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.

Note.— 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.

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.

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

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 alternate 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.

Note.— The aerodrome from which a flight departs may also be an en-route or a destination alternate aerodrome for that flight.

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

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.

Appropriate authority.

a) *Regarding flight over the high seas:* The relevant authority of the State of Registry.

b) *Regarding flight other than over the high seas:* The relevant authority of the State having sovereignty over the territory being overflown.

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

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.

Note.— Area navigation includes performance-based navigation as well as other operations that do not meet the definition of performance-based navigation.

ATS route. A specified route designed for channelling the flow of traffic as necessary for the provision of air traffic services.

Note 1.— The term “ATS route” is used to mean variously, airway, advisory route, controlled or uncontrolled route, arrival or departure route, etc.

Note 2.— 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 — 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.

Note.— The abbreviated term “ADS contract” is commonly used to refer to ADS event contract, ADS demand contract, ADS periodic contract or an emergency mode.

Ceiling. The height above the ground or water of the base of the lowest layer of cloud below 6 000 metres (20 000 feet) covering more than half the sky.

Changeover 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.

Note.— Changeover 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.

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

Command and control (C2) link. The data link between the remotely piloted aircraft and the remote pilot station for the purposes of managing the flight.

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.

Controlled airspace. An airspace of defined dimensions within which air traffic control service is provided in accordance with the airspace classification.

Note.— Controlled airspace is a generic term which covers ATS airspace Classes A, B, C, D and E as described in Annex 11, 2.6.

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.

Cruise climb. An aeroplane cruising technique resulting in a net increase in altitude as the aeroplane mass decreases. **Cruising level.** A level maintained during a significant portion of a flight.

Current flight plan. The flight plan, including changes, if any, brought about by subsequent clearances.

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.

Detect and avoid. The capability to see, sense or detect conflicting traffic or other hazards and take the appropriate action.

Estimated off-block time. The estimated time at which the aircraft will commence movement associated with departure.

Estimated time of arrival. For IFR flights, the time at which it is estimated that the aircraft will arrive over that designated point, defined by reference to navigation aids, from which it is intended that an instrument approach procedure will be commenced, or, if no navigation aid is associated with the aerodrome, the time at which the aircraft will arrive over the aerodrome. For VFR flights, the time at which it is estimated that the aircraft will arrive over the aerodrome.

Expected approach time. The time at which ATC expects that an arriving aircraft, following a delay, will leave the holding fix to complete its approach for a landing.

Note.— The actual time of leaving the holding fix will depend upon the approach clearance.

Filed flight plan. The flight plan as filed with an ATS unit by the pilot or a designated representative, without any subsequent changes.

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, 1 013.2 hectopascals

(hPa), and is separated from other such surfaces by specific pressure intervals.

Note 1.— 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.*

Note 2.— The terms “height” and “altitude”, used in Note 1 above, indicate altimetric rather than geometric heights and altitudes.

Flight plan. Specified information provided to air traffic services units, relative to an intended flight or portion of a flight of an aircraft.

Flight visibility. The visibility forward from the cockpit of an aircraft in flight.

Ground visibility. The visibility at an aerodrome as reported by an accredited observer or by automatic systems.

Heading. The direction in which the longitudinal axis of an aircraft is pointed, usually expressed in degrees from North (true, magnetic, compass or grid).

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

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.

Instrument approach operations. An approach and landing using instruments for navigation guidance based on an instrument approach procedure. There are two methods for executing instrument approach operations:

- a) a two-dimensional (2D) instrument approach operation, using lateral navigation guidance only; and
- b) a three-dimensional (3D) instrument approach operation, using both lateral and vertical navigation guidance.

Note.— Lateral and vertical navigation guidance refers to the guidance provided either by:

- a) *a ground-based radio navigation aid; or*
- b) *computer-generated navigation data from ground-based, space-based, self-contained navigation aids or a combination of these.*

Instrument approach procedure. A series of predetermined manoeuvres by reference to flight instruments with specified protection from obstacles from the initial approach fix, or where applicable, from the beginning of a defined arrival route to a point from which a landing can be completed and thereafter, if a landing is not completed, to a position at which holding or en-route obstacle clearance criteria apply. Instrument approach procedures are classified as follows:

Approach procedure with vertical guidance (APV). A performance-based navigation (PBN) instrument approach procedure designed for 3D instrument approach operations Type A.

Precision approach (PA) procedure. An instrument approach procedure based on navigation systems (ILS, MLS, GLS and SBAS Cat I) designed for 3D instrument approach operations Type A or B.

Note.— Refer to Annex 6 for instrument approach operation types.

Instrument meteorological conditions. Meteorological conditions expressed in terms of visibility, distance from cloud, and ceiling, less than the minima specified for visual meteorological conditions.

Note.— The specified minima for visual meteorological conditions are contained in Chapter 4.

Landing area. That part of a movement area intended for the landing or take-off of aircraft.

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.

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).

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

Note.— In the context of remotely piloted aircraft, an aircraft operation includes the remotely piloted aircraft system.

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.

Pressure-altitude. An atmospheric pressure expressed in terms of altitude which corresponds to that pressure in the Standard Atmosphere.*

Problematic use of substances. The use of one or more psychoactive substances by aviation personnel in a way that:

- a) constitutes a direct hazard to the user or endangers the lives, health or welfare of others;
- and/or b) causes or worsens an occupational, social, mental or physical problem or disorder.

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.

Psychoactive substances. Alcohol, opioids, cannabinoids, sedatives and hypnotics, cocaine, other psychostimulants, hallucinogens, and volatile solvents, whereas coffee and tobacco are excluded.

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

Remote pilot. A person charged by the operator with duties essential to the operation of a remotely piloted aircraft and who manipulates the flight controls, as appropriate, during flight time.

Remote pilot station. The component of the remotely piloted aircraft system containing the equipment used to pilot the remotely piloted aircraft.

Remotely piloted aircraft (RPA). An unmanned aircraft which is piloted from a remote pilot station.

Remotely piloted aircraft system (RPAS). A remotely piloted aircraft, its associated remote pilot station(s), the required command and control links and any other components as specified in the type design.

Repetitive flight plan (RPL). A flight plan related to a series of frequently recurring, regularly operated individual flights with identical basic features, submitted by an operator for retention and repetitive use by ATS units.

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

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.

RPA observer. A trained and competent person designated by the operator who, by visual observation of the remotely piloted aircraft, assists the remote pilot in the safe conduct of the flight.

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

Runway-holding position. A designated position intended to protect a runway, an obstacle limitation surface, or an ILS/ MLS critical/sensitive area at which taxiing aircraft and vehicles shall stop and hold, unless otherwise authorized by the aerodrome control tower.

Note.— In radiotelephony phraseologies, the expression “holding point” is used to designate the runway-holding position.

Safety-sensitive personnel. Persons who might endanger aviation safety if they perform their duties and functions improperly including, but not limited to, crew members, aircraft maintenance personnel and air traffic controllers.

Signal area. An area on an aerodrome used for the display of ground signals.

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

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

Taxiway. A defined path on a land aerodrome established for the taxiing of aircraft and intended to provide a link between one part of the aerodrome and another, including:

- a) *Aircraft stand taxiway.* A portion of an apron designated as a taxiway and intended to provide access to aircraft stands only.
- b) *Apron taxiway.* A portion of a taxiway system located on an apron and intended to provide a through taxi route across the apron.
- c) *Rapid exit taxiway.* A taxiway connected to a runway at an acute angle and designed to allow landing aeroplanes to turn off at higher speeds than are achieved on other exit taxiways thereby minimizing runway occupancy times.

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

Total estimated elapsed time. For IFR flights, the estimated time required from take-off to arrive over that designated point, defined by reference to navigation aids, from which it is intended that an instrument approach procedure will be commenced, or, if no navigation aid is associated with the destination aerodrome, to arrive over the destination aerodrome. For VFR flights, the estimated time required from take-off to arrive over the destination aerodrome.

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.

Transition altitude. The altitude at or below which the vertical position of an aircraft is controlled by reference to altitudes.

Unmanned free balloon. A non-power-driven, unmanned, lighter-than-air aircraft in free flight.

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

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

Visibility. Visibility for aeronautical purposes is the greater of:

- a) the greatest distance at which a black object of suitable dimensions, situated near the ground, can be seen and recognized when observed against a bright background;
- b) the greatest distance at which lights in the vicinity of 1 000 candelas can be seen and identified against an unlit background.

Note 1.— The two distances have different values in air of a given extinction coefficient, and the latter b) varies with the background illumination. The former a) is represented by the meteorological optical range (MOR).

Note 2.— The definition applies to the observations of visibility in local routine and special reports, to the observations of prevailing and minimum visibility reported in METAR and SPECI and to the observations of ground visibility.

Visual line-of-sight (VLOS) operation. An operation in which the remote pilot or RPA observer maintains direct unaided visual contact with the remotely piloted aircraft.

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

Note.— The specified minima are contained in Chapter 4.

VMC. The symbol used to designate visual meteorological conditions.

CHAPTER 2. APPLICABILITY

2.1 Territorial application:

2.1.1 Provisions of this ANO shall apply:

- (a) to aircraft registered in Bangladesh or aircraft operated by an operator who has his principal place of business or permanent place of residence in Bangladesh, wherever they may be; and
- (b) to all aircraft for the time being in or over Bangladesh;

2.1.2 If, and so long as, a Contracting State has not notified the International Civil Aviation Organization to the contrary, it shall be deemed, as regards aircraft of its registration, to have agreed as follows:

For purposes of flight over those parts of the high seas where a Contracting State has accepted, pursuant to a regional air navigation agreement, the responsibility of providing air traffic services, the “appropriate ATS authority” referred to in this ANO is the relevant authority designated by the State responsible for providing those services.

2.2 Compliance with the rules of the air

The operation of an aircraft either in flight or on the movement area of an aerodrome shall be in compliance with the general rules and, in addition, when in flight, either with:

- a) the visual flight rules; or
- b) the instrument flight rules.

2.3 Responsibility for compliance with the rules of the air

2.3.1 Responsibility of pilot-in-command

The pilot-in-command of an aircraft shall, whether manipulating the controls or not, be responsible for the operation of the aircraft in accordance with the rules of the air, except that the pilot-in-command may depart from these rules in circumstances that render such departure absolutely necessary in the interests of safety.

2.3.2 Pre-flight action

Before beginning a flight, the pilot-in-command of an aircraft shall become familiar with all available information appropriate to the intended operation. Pre-flight action for flights away from the vicinity of an aerodrome, and for all IFR flights, shall include a careful study of available current weather reports and forecasts, taking into consideration fuel requirements and an alternative course of action if the flight cannot be completed as planned.

- (a) Before commencing take-off, a pilot-in-command shall ensure that:
 - i) According to the available information, the weather at the aerodrome and the condition of the runway intended to be used will allow for a safe take-off and departure; and
 - ii) The RVR or visibility in the take-off direction of the aircraft is equal to or better than the applicable minimum.

2.4 Authority of pilot-in-command of an aircraft

The pilot-in-command of an aircraft shall have final authority as to the disposition of the aircraft while in command.

2.5 Problematic use of psychoactive substances

No person, whose function is critical to the safety of aviation (safety-sensitive personnel), shall undertake that function while under the influence of any psychoactive substance, by reason of which human performance is impaired. No such person shall engage in any kind of problematic use of substances.

CHAPTER 3. GENERAL RULES

3.1 Protection of persons and property

3.1.1 Negligent or reckless operation of aircraft

No person shall operate an aircraft in a negligent or reckless manner so as to endanger life or property of others.

3.1.2 Minimum heights

No person shall operate an aircraft over the congested areas of cities, towns or settlements or over an open-air assembly of persons, except when necessary for take-off or landing, or except by permission from the appropriate authority, at such a height as will permit, in the event of an emergency arising, a landing to be made without undue hazard to persons or property on the surface.

3.1.3 Cruising levels

The cruising levels at which a flight or a portion of a flight is to be conducted shall be in terms of:

- a) flight levels, for flights at or above the lowest usable flight level or, where applicable, above the transition altitude;
- b) altitudes, for flights below the lowest usable flight level or, where applicable, at or below the transition altitude.

3.1.4 Dropping or spraying

Nothing shall be dropped or sprayed from an aircraft in flight except under conditions prescribed by the appropriate authority and as indicated by relevant information, advice and/or clearance from the appropriate air traffic services unit.

3.1.5 Towing

No aircraft or other object shall be towed by an aircraft, except in accordance with requirements prescribed by the appropriate authority and as indicated by relevant information, advice and/or clearance from the appropriate air traffic services unit.

3.1.6 Parachute descents

No parachute descents, other than emergency descents, shall be made except under conditions prescribed by the appropriate authority and as indicated by relevant information, advice and/or clearance from the appropriate air traffic services unit.

3.1.7 Acrobatic flight

No person shall operate an aircraft acrobatically except under conditions prescribed by the appropriate authority and as indicated by relevant information, advice and/or clearance from the appropriate air traffic services unit.

3.1.8 Formation flights

No person shall operate an aircraft in formation except by pre-arrangement among the pilots-in-command of the aircraft taking part in the flight and, for formation flight in controlled airspace, in accordance with the conditions prescribed by the appropriate ATS authority(ies). These conditions shall include the following:

- a) the formation operates as a single aircraft with regard to navigation and position reporting;
- b) separation between aircraft in the flight shall be the responsibility of the flight leader and the pilots-in-command of the other aircraft in the flight and shall include periods of transition when aircraft are manoeuvring to attain their own separation within the formation and during join-up and breakaway; and
- c) a distance not exceeding 1 km (0.5 NM) laterally and longitudinally and 30 m (100 ft) vertically from the flight leader shall be maintained by each aircraft.

3.1.9 Remotely piloted aircraft

No person shall operate a remotely piloted aircraft in a manner that would cause hazards to persons, property or other aircraft. A person operating an RPA shall comply with the conditions as specified in Appendix 4

3.1.10 Unmanned free balloons

No person shall operate an unmanned free balloon in a manner that would cause a hazard to persons, property, or other aircraft. A person operating an unmanned free balloon shall comply with the conditions as specified in appendix 5.

3.1.11 Prohibited areas and restricted areas

No person may operate an aircraft in a prohibited area, or in restricted areas, the particulars of which have been duly published, except in accordance with the conditions of the restrictions or by permission of the State over whose territory the areas are established.

3.2 Avoidance of collisions

Nothing in these rules shall relieve the pilot-in-command of an aircraft from the responsibility of taking such action, including collision avoidance manoeuvres based on resolution advisories provided by ACAS or such other equipment, as will best avert collision.

3.2.1 Proximity

No person shall operate an aircraft, in such proximity to other aircraft, as to create a collision hazard.

3.2.2 Right-of-way

The aircraft that has the right-of-way shall maintain its heading and speed.

3.2.2.1 An aircraft that is obliged by the following rules to keep out of the way of another shall avoid passing over, under or in front of the other, unless it passes well clear and takes into account the effect of aircraft wake turbulence.

3.2.2.2 *Approaching head-on.* When two aircraft are approaching head-on or approximately so and there is danger of collision, each shall alter its heading to the right.

3.2.2.3 *Converging.* When two aircraft are converging at approximately the same level, the aircraft that has the other on its right shall give way, except as follows:

- a) power-driven heavier-than-air aircraft shall give way to airships, gliders and balloons;
- b) airships shall give way to gliders and balloons;
- c) gliders shall give way to balloons;
- d) power-driven aircraft shall give way to aircraft which are seen to be towing other aircraft or objects.

3.2.2.4 *Overtaking.* An overtaking aircraft is an aircraft that approaches another from the rear on a line forming an angle of less than 70 degrees with the plane of symmetry of the latter, i.e. is in such a position with reference to the other aircraft that at night it should be unable to see either of the aircraft's left (port) or right (starboard) navigation lights. An aircraft that is being overtaken has the right-of-way and the overtaking aircraft, whether climbing, descending or in horizontal flight, shall keep out of the way of the other aircraft by altering its heading to the right, and no subsequent change in the relative positions of the two aircraft shall absolve the overtaking aircraft from this obligation until it is entirely past and clear.

3.2.2.5 *Landing*

3.2.2.5.1 An aircraft in flight, or operating on the ground or water, shall give way to aircraft landing or in the final stages of an approach to land.

3.2.2.5.2 When two or more heavier-than-air aircraft are approaching an aerodrome for the purpose of landing, aircraft at the higher level shall give way to aircraft at the lower level, but the latter shall not take advantage of this rule to cut in front of another which is in the final stages of an approach to land, or to overtake that aircraft. Nevertheless, power-driven heavier-than-air aircraft shall give way to gliders.

3.2.2.5.3 *Emergency landing.* An aircraft that is aware that another is compelled to land shall give way to that aircraft.

3.2.2.6 *Taking off.* An aircraft taxiing on the manoeuvring area of an aerodrome shall give way to aircraft taking off or about to take off.

3.2.2.7 *Surface movement of aircraft*

3.2.2.7.1 In case of danger of collision between two aircraft taxiing on the movement area of an aerodrome the following shall apply:

- a) when two aircraft are approaching head on, or approximately so, each shall stop or where practicable alter its course to the right so as to keep well clear;
- b) when two aircraft are on a converging course, the one which has the other on its right shall give way;
- c) an aircraft which is being overtaken by another aircraft shall have the right-of-way and the overtaking aircraft shall keep well clear of the other aircraft.

3.2.2.7.2 An aircraft taxiing on the manoeuvring area shall stop and hold at all runway-holding positions unless otherwise authorized by the aerodrome control tower.

3.2.2.7.3 An aircraft taxiing on the manoeuvring area shall stop and hold at all lighted stop bars and may proceed further when the lights are switched off.

3.2.3 Lights to be displayed by aircraft

- a) If an aircraft has red rotating beacon lights, or other lights installed to show that the engine is running, the pilot shall switch those lights on before starting engines and shall display those lights at all times the engines are running.
- b) No person may operate an aircraft between the period from sunset to sunrise unless:
 - i) The aircraft has lighted navigation lights; and
 - ii) If anti-collision lights are installed, those lights are lighted.
- c) No person may park or move an aircraft between the period from sunset to sunrise in, or in a dangerous proximity to, a movement area of an aerodrome, unless the aircraft:
 - i) Is clearly illuminated;
 - ii) Has lighted navigation lights; or
 - iii) Is in an area that is marked by obstruction lights; or
 - iv) Has lights to indicate when the engine is running.
 - v) No person may anchor an aircraft unless that aircraft:
 - vi) Has lighted anchor lights; or
 - vii) Is in an area where anchor lights are not required on vessels.
- d) No person may operate an aircraft on water during the period from sunset to sunrise unless:
 - i) The aircraft displays lights as required by the International Regulations for Preventing Collisions at Sea (most recent edition); or
 - ii) The aircraft displays lights as similar as possible in characteristics and position to those required by the International Regulations for Preventing Collisions at Sea if it is not practical to display the lights exactly as required.
- e) A pilot is permitted to switch off or reduce the intensity of any flashing lights fitted to meet the requirements of this subsection if they do or are likely to:
 - i) Adversely affect the satisfactory performance of duties; or
 - ii) Subject an outside observer to harmful dazzle.

3.2.4 Simulated instrument flights

- a) No person may operate an aircraft in simulated instrument flight unless:
 - i) The aircraft has fully functioning dual controls;
 - ii) The other control seat is occupied by a safety pilot who holds at least a private pilot licence with category and class ratings appropriate to the aircraft being flown; and
 - iii) The safety pilot has adequate vision forward and to each side of the aircraft, or a competent observer in the aircraft adequately supplements the vision of the safety pilot.

3.2.5 Operation on and in the vicinity of an aerodrome

- a) Each pilot operating an aircraft, shall:
 - i) make all turns to the left, when approaching for a landing and after taking off, unless otherwise instructed;
 - ii) land and take off into the wind unless safety, the runway configuration, or air traffic considerations determine that a different direction is preferable.
- b) Each pilot operating an aircraft either on or in the vicinity of an aerodrome shall:

- i) observe other aerodrome traffic for the purpose of avoiding collision;
 - ii) conform with or avoid the pattern of traffic formed by other aircraft in operation;
- c) A helicopter shall avoid the flow of aeroplanes.

3.2.6 Water operations

Intentionally kept blank

3.3 Flight plans

3.3.1 Submission of flight plan

- a) Information relative to an intended flight or portion of a flight, to be provided to air traffic services units, shall be in the form of a flight plan.
- b) Before operating one of the following, a pilot shall file a VFR or IFR flight plan, as applicable, for:
 - i) Any flight (or portion thereof) to be provided with ATC service;
 - ii) Any IFR flight within advisory airspace;
 - iii) Any flight within or into designated areas, or along designated routes, when so required by the appropriate ATC authority to facilitate the provision of flight information, alerting, and search and rescue services;
 - iv) Any flight within or into designated areas, or along designated routes, when so required by the appropriate ATC authority to facilitate coordination with appropriate military units or with ATC facilities in adjacent States in order to avoid the possible need for interception for the purpose of identification; and
 - v) Any flight across international borders.
- c) The PIC shall submit a flight plan to the appropriate ATC facility before departure or during flight, unless arrangements have been made for submission of repetitive flight plans.
- d) Unless otherwise prescribed by the appropriate ATC authority, a pilot shall submit a flight plan to the appropriate ATC facility:
 - i) At least 60 minutes before departure; or
- e) If submitted during flight, at a time that will ensure its receipt by the appropriate ATC facility at least ten minutes before the aircraft is estimated to reach:
 - (i) The intended point of entry into a control area or advisory area; or
 - (ii) The point of crossing an airway or advisory route

3.3.2 Contents of a flight plan

(a) Each person filing an IFR or VFR flight plan shall include in the flight plan the following information:

- Aircraft identification
- Flight rules and type of flight
- Number and type(s) of aircraft and wake turbulence category
- Equipment
- Departure aerodrome (see Note 1)
- Estimated off-block time (see Note 2)

- Cruising speed(s)
- Cruising level(s)
- Route to be followed
- Destination aerodrome and total estimated elapsed time
- Alternate aerodrome(s)
- Fuel endurance
- Total number of persons on board
- Emergency and survival equipment
- Other information.

3.3.3 Completion of a flight plan

3.3.3.1 Whatever the purpose for which it is submitted, a flight plan shall contain information, as applicable, on relevant items up to and including “Alternate aerodrome(s)” regarding the whole route or the portion thereof for which the flight plan is submitted.

3.3.3.2 It shall, in addition, contain information, as applicable, on all other items when so prescribed by the appropriate
ATS authority or when otherwise deemed necessary by the person submitting the flight
plan

3.3.4 Changes to a flight plan

Subject to the provisions of 3.6.2.2, all changes to a flight plan submitted for an IFR flight, or a VFR flight operated as a controlled flight, shall be reported as soon as practicable to the appropriate air traffic services unit. For other VFR flights, significant changes to a flight plan shall be reported as soon as practicable to the appropriate air traffic services unit.

3.3.5 Closing a flight plan

3.3.5.1 Unless otherwise prescribed by the appropriate ATS authority, a report of arrival shall be made in person, by radiotelephony or via data link at the earliest possible moment after landing, to the appropriate air traffic services unit at the arrival aerodrome, by any flight for which a flight plan has been submitted covering the entire flight or the remaining portion of a flight to the destination aerodrome.

3.3.5.2 When a flight plan has been submitted only in respect of a portion of a flight, other than the remaining portion of a flight to destination, it shall, when required, be closed by an appropriate report to the relevant air traffic services unit.

3.3.5.3 When no air traffic services unit exists at the arrival aerodrome, the arrival report, when required, shall be made as soon as practicable after landing and by the quickest means available to the nearest air traffic services unit.

3.3.5.4 When communication facilities at the arrival aerodrome are known to be inadequate and alternate arrangements for the handling of arrival reports on the ground are not available, the following action shall be taken. Immediately prior to landing the aircraft shall, if practicable, transmit to the appropriate air traffic services unit, a message comparable to an arrival report, where such a report is required. Normally, this transmission shall be made to the aeronautical station serving the air traffic services unit in charge of the flight information region in which the aircraft is operated.

3.3.5.5 Arrival reports made by aircraft shall contain the following elements of information:

- a) aircraft identification;
- b) departure aerodrome;
- c) destination aerodrome (only in the case of a diversionary landing);
- d) arrival aerodrome;
- e) time of arrival.

Note.— Whenever an arrival report is required, failure to comply with these provisions may cause serious disruption in the air traffic services and incur great expense in carrying out unnecessary search and rescue operations.

3.4 Signals

3.4.1 Upon observing or receiving any of the signals given in Appendix 1, aircraft shall take such action as may be required by the interpretation of the signal given in that Appendix.

3.4.2 The signals of Appendix 1 shall, when used, have the meaning indicated therein. They shall be used only for the purpose indicated and no other signals likely to be confused with them shall be used.

3.4.3 A signalman shall be responsible for providing standard marshalling signals to aircraft in a clear and precise manner using the signals shown in Appendix 1.

3.4.4 No person shall guide an aircraft unless trained, qualified and approved by the appropriate authority to carry out the functions of a signalman.

3.4.5 The signalman shall wear a distinctive fluorescent identification vest to allow the flight crew to identify that he or she is the person responsible for the marshalling operation.

3.4.6 Daylight-fluorescent wands, table-tennis bats or gloves shall be used for all signalling by all participating ground staff during daylight hours. Illuminated wands shall be used at night or in low visibility.

3.5 Time

3.5.1 Coordinated Universal Time (UTC) shall be used and shall be expressed in hours and minutes and, when required, seconds of the 24-hour day beginning at midnight.

3.5.2 A time check shall be obtained prior to operating a controlled flight and at such other times during the flight as may be necessary.

3.5.3 Wherever time is utilized in the application of data link communications, it shall be accurate to within 1 second of UTC.

3.6 Air traffic control service

3.6.1 Air traffic control clearances

- (a) Each PIC shall obtain an ATC clearance before operating a controlled flight, or a portion of a flight as a controlled flight.
- (b) Each PIC shall request an ATC clearance, including potential re-clearance in-flight, through the submission of a flight plan to an ATC facility.
- (c) Whenever a PIC has requested a clearance involving priority, that PIC shall submit a report explaining the necessity for such priority, if requested by the appropriate ATC facility.
- (d) No person operating an aircraft on a controlled aerodrome may taxi on the manoeuvring area or any runway without clearance from the aerodrome control tower

3.6.2 Adherence to current flight plan

3.6.2.1 Except as provided for in 3.6.2.4, Pilot in Command of an aircraft shall adhere to the current flight plan or the applicable portion of a current flight plan for a controlled flight within the tolerances defined in paragraphs 3.6.2.1.1 to 3.6.2.2 unless a request for a change has been made and clearance obtained from the appropriate air traffic control unit, or unless an emergency situation arises which necessitates immediate action by the aircraft, in which event as soon as circumstances permit, after such emergency authority is exercised, the appropriate air traffic services unit shall be notified of the action taken and that this action has been taken under emergency authority.

3.6.2.1.1 Unless otherwise authorized by the appropriate ATS authority, or directed by the appropriate air traffic control unit, controlled flights shall, in so far as practicable:

- a) when on an established ATS route, operate along the defined centre line of that route; or
- b) when on any other route, operate directly between the navigation facilities and/or points defining that route.

3.6.2.1.2 Subject to the overriding requirement in 3.6.2.1.1, an aircraft operating along an ATS route segment defined by reference to very high frequency omnidirectional radio ranges shall change over for its primary navigation guidance from the facility behind the aircraft to that ahead of it at, or as close as operationally feasible to, the changeover point, where established.

3.6.2.1.3 Deviation from the requirements in 3.6.2.1.1 shall be notified to the appropriate air traffic services unit.

3.6.2.2 **Deviations from the current flight plan.** In the event that a controlled flight deviates from its current flight plan, the following action shall be taken:

- a) *Deviation from track:* if the aircraft is off track, action shall be taken forthwith to adjust the heading of the aircraft to regain track as soon as practicable.
- b) *Deviation from ATC assigned Mach number/indicated airspeed:* the appropriate air traffic services unit shall be informed immediately.
- c) *Deviation from Mach number/true airspeed:* if the sustained Mach number/true airspeed at cruising level varies by plus or minus Mach 0.02 or more, or plus or minus 19 km/h (10 kt) true airspeed or more from the current flight plan, the appropriate air traffic services unit shall be so informed.
- d) *Change in time estimate:* except where ADS-C is activated and serviceable in airspace where ADS-C services are provided, if the time estimate for the next applicable reporting point, flight information region boundary or destination aerodrome, whichever comes first, changes in excess of 2 minutes from that previously notified to air traffic services, or such other period of time as is prescribed by the appropriate ATS authority or on the basis of regional air navigation agreements, the flight crew shall notify the appropriate air traffic services unit as soon as possible.

3.6.2.2.1 When ADS-C services are provided and ADS-C is activated, the air traffic services unit shall be informed automatically via data link whenever changes occur beyond the threshold values stipulated by the ADS event contract.

3.6.2.3 **Change Requests.** Requests for current flight plan changes shall include information as indicated hereunder:

- a) *Change of cruising level:* aircraft identification; requested new cruising level and cruising Mach number/true airspeed at this level; revised time estimates (when applicable) at subsequent reporting points or flight information region boundaries.
- b) *Change of Mach number/true airspeed:* aircraft identification; requested Mach number/true airspeed.
- c) *Change of route:*
 - 1) *Destination unchanged:* aircraft identification; flight rules; description of new route of flight including related flight plan data beginning with the position from which requested change of route is to commence; revised time estimates; any other pertinent information.
 - 2) *Destination changed:* aircraft identification; flight rules; description of revised route of flight to revised destination aerodrome including related flight plan data, beginning with the position from which requested change of route is to commence; revised time estimates; alternate aerodrome(s); any other pertinent information.

3.6.2.4 **Weather deterioration below the VMC.** When it becomes evident that flight in VMC in accordance with its current flight plan will not be practicable, a VFR flight operated as a controlled flight shall:

- a) request an amended clearance enabling the aircraft to continue in VMC to destination or to an alternative aerodrome, or to leave the airspace within which an ATC clearance is required; or
- b) if no clearance in accordance with a) can be obtained, continue to operate in VMC and notify the appropriate ATC unit of the action being taken either to leave the airspace concerned or to land at the nearest suitable aerodrome; or
- c) if operated within a control zone, request authorization to operate as a special VFR flight; or
- d) request clearance to operate in accordance with the instrument flight rules.

3.6.3 Position reports

3.6.3.1 Unless exempted by the appropriate ATS authority or by the appropriate air traffic services unit under conditions specified by that authority, a controlled flight shall report to the appropriate air traffic services unit, as soon as

possible, the time and level of passing each designated compulsory reporting point, together with any other required information. Position reports shall similarly be made in relation to additional points when requested by the appropriate air traffic services unit. In the absence of designated reporting points, position reports shall be made at intervals prescribed by the appropriate ATS authority or specified by the appropriate air traffic services unit.

3.6.3.1.1 Controlled flights providing position information to the appropriate air traffic services unit via data link communications shall only provide voice position reports when requested.

Note.— The conditions and circumstances in which ADS-B or SSR Mode C transmission of pressure-altitude satisfies the requirement for level information in position reports are indicated in the PANS-ATM (Doc 4444).

3.6.4 Termination of control

A controlled flight shall, except when landing at a controlled aerodrome, advise the appropriate ATC unit as soon as it ceases to be subject to air traffic control service.

3.6.5 Communications

3.6.5.1 An aircraft operated as a controlled flight shall maintain continuous air-ground voice communication watch on the appropriate communication channel of, and establish two-way communication as necessary with, the appropriate air traffic control unit, except as may be prescribed by the appropriate ATS authority in respect of aircraft forming part of aerodrome traffic at a controlled aerodrome.

3.6.5.2 *Communication failure.* If a communication failure precludes compliance with 3.6.5.1, the aircraft shall comply with the voice communication failure procedures of Annex 10, Volume II, and with such of the following procedures as are appropriate. The aircraft shall attempt to establish communications with the appropriate air traffic control unit using all other available means. In addition, the aircraft, when forming part of the aerodrome traffic at a controlled aerodrome, shall keep a watch for such instructions as may be issued by visual signals.

3.6.5.2.1 If in visual meteorological conditions, the aircraft shall:

- a) continue to fly in visual meteorological conditions; land at the nearest suitable aerodrome; and report its arrival by the most expeditious means to the appropriate air traffic services unit;
- b) if considered advisable, complete an IFR flight in accordance with 3.6.5.2.2.

3.6.5.2.2 If in instrument meteorological conditions or when the pilot of an IFR flight considers it inadvisable to complete the flight in accordance with 3.6.5.2.1 a), the aircraft shall:

- a) unless otherwise prescribed on the basis of regional air navigation agreement, in airspace where radar is not used in the provision of air traffic control, maintain the last assigned speed and level, or minimum flight altitude if higher, for a period of 20 minutes following the aircraft's failure to report its position over a compulsory reporting point and thereafter adjust level and speed in accordance with the filed flight plan;
- b) in airspace where radar is used in the provision of air traffic control, maintain the last assigned speed and level, or minimum flight altitude if higher, for a period of 7 minutes following:
 - 1) the time the last assigned level or minimum flight altitude is reached; or
 - 2) the time the transponder is set to Code 7600; or
 - 3) the aircraft's failure to report its position over a compulsory reporting point;

whichever is later, and thereafter adjust level and speed in accordance with the filed flight plan;

- c) when being radar vectored or having been directed by ATC to proceed offset using area navigation (RNAV) without a specified limit, rejoin the current flight plan route no later than the next significant point, taking into consideration the applicable minimum flight altitude;
- d) proceed according to the current flight plan route to the appropriate designated navigation aid or fix serving the destination aerodrome and, when required to ensure compliance with e) below, hold over this aid or fix until commencement of descent;
- e) commence descent from the navigation aid or fix specified in d) at, or as close as possible to, the expected approach time last received and acknowledged; or, if no expected approach time has been received and acknowledged, at, or as close as possible to, the estimated time of arrival resulting from the current flight plan;
- f) complete a normal instrument approach procedure as specified for the designated navigation aid or fix; and
- g) land, if possible, within 30 minutes after the estimated time of arrival specified in e) or the last acknowledged expected approach time, whichever is later.

3.7 Unlawful interference

- 3.7.1 A Pilot-in-Command shall, when and if possible, notify the appropriate ATC facility when an aircraft is being subjected to unlawful interference, including:
 - a) Any significant circumstances associated with the unlawful interference; and
 - b) Any deviation from the current flight plan necessitated by the circumstances.
- 3.7.2 When an aircraft is subjected to unlawful interference, the PIC shall attempt to land as soon as practicable at:
 - a) The nearest suitable aerodrome; or
 - b) A dedicated aerodrome assigned by the appropriate Authority, unless considerations aboard the aircraft dictate otherwise.

3.8 Interception

- 3.8.1 When intercepted by a military or government aircraft, each PIC shall comply with the International Standards when interpreting and responding to visual signals and communication, as prescribed in Appendix 2
- 3.8.2 No pilot may conduct an international flight unless the procedures and signals relating to interception of aircraft, as prescribed in Appendix-00, are readily available on the flight deck.

CHAPTER 4. VISUAL FLIGHT RULES

4.1 No VFR flights, except special VFR, shall be conducted in conditions of visibility and distance from clouds are less than those specified in Table 3-1.

4.2 No VFR flights, unless authorized by appropriate ATS authority, shall not take off or land at an aerodrome within a control zone, or enter the aerodrome traffic zone or traffic pattern:

- a) when the ceiling is less than 450 m (1 500 ft); or
- b) when the ground visibility is less than 5 km.

4.3 VFR flights between sunset and sunrise, or such other period between sunset and sunrise as may be prescribed by the appropriate ATS authority, shall be operated in accordance with the conditions prescribed by such authority.

4.4 Unless authorized by the appropriate ATS authority, VFR flights shall not be operated:

- a) above FL 150;
- b) at transonic and supersonic speeds.

4.5 No VFR flights shall operate in RVSM airspace.

4.6 No VFR flights, except when necessary for take-off or landing, or except by permission from the appropriate authority, shall be flown:

- a) over the congested areas of cities, towns or settlements or over an open-air assembly of persons at a height less than 300 m (1 000 ft) above the highest obstacle within a radius of 600 m from the aircraft;
- b) elsewhere than as specified in 4.6 a), at a height less than 150 m (500 ft) above the ground or water.

4.7 Except where otherwise indicated in air traffic control clearances or specified by the appropriate ATS authority, VFR flights in level cruising flight when operated above 900 m (3 000 ft) from the ground or water, or a higher datum as specified by the appropriate ATS authority, shall be conducted at a cruising level appropriate to the track as specified in the tables of cruising levels in Appendix 3.

4.8 VFR flights shall comply with the provisions of Air Traffic Control service:

- a) when operated within Classes B, C and D airspace;
- b) when forming part of aerodrome traffic at controlled aerodromes; or
- c) when operated as special VFR flights.

4.9 A VFR flight operating within or into areas, or along routes, designated by the appropriate ATS authority in accordance with 3.3.1 (b) (iii)(iv) shall maintain continuous air-ground voice communication watch on the appropriate communication channel of, and report its position as necessary to, the air traffic services unit providing flight information service.

4.10 An aircraft operated in accordance with the visual flight rules which wishes to change to compliance with the instrument flight rules shall:

- a) if a flight plan was submitted, communicate the necessary changes to be effected to its current flight plan; or

b) when so required by 3.3 submit a flight plan to the appropriate air traffic services unit and obtain a clearance prior to proceeding IFR when in controlled airspace.

CHAPTER 5. INSTRUMENT FLIGHT RULES

5.1 Rules applicable to all IFR flights

5.1.1 Aircraft equipment

Aircraft shall be equipped with suitable instruments and with navigation equipment appropriate to the route to be flown.

5.1.2 Minimum levels

Except when necessary for take-off or landing, or except when specifically authorized by the appropriate authority, an IFR flight shall be flown at a level which is not below the minimum flight altitude established by the State whose territory is overflown, or, where no such minimum flight altitude has been established:

- a) over high terrain or in mountainous areas, at a level which is at least 600 m (2 000 ft) above the highest obstacle located within 8 km of the estimated position of the aircraft;
- b) elsewhere than as specified in a), at a level which is at least 300 m (1 000 ft) above the highest obstacle located within 8 km of the estimated position of the aircraft.

5.1.3 Change from IFR flight to VFR flight

5.1.3.1 An aircraft electing to change the conduct of its flight from compliance with the instrument flight rules to compliance with the visual flight rules shall, if a flight plan was submitted, notify the appropriate air traffic services unit specifically that the IFR flight is cancelled and communicate thereto the changes to be made to its current flight plan.

5.1.3.2 When an aircraft operating under the instrument flight rules is flown in or encounters visual meteorological conditions it shall not cancel its IFR flight unless it is anticipated, and intended, that the flight will be continued for a reasonable period of time in uninterrupted visual meteorological conditions.

5.2 Rules applicable to IFR flights within controlled airspace

5.2.1 IFR flights shall comply with the provisions of Air Traffic Control Service when operated in controlled airspace.

5.2.2 An IFR flight operating in cruising flight in controlled airspace shall be flown at a cruising level, or, if authorized to employ cruise climb techniques, between two levels or above a level, selected from:

- a) the tables of cruising levels in Appendix 3; or
- b) a modified table of cruising levels, when so prescribed in accordance with Appendix 3 for flight above FL 410;

except that the correlation of levels to track prescribed therein shall not apply whenever otherwise indicated in air traffic control clearances or specified by the appropriate ATS authority in Aeronautical Information Publications.

5.3 Rules applicable to IFR flights outside controlled airspace

5.3.1 Cruising levels

An IFR flight operating in level cruising flight outside of controlled airspace shall be flown at a cruising level appropriate to its track as specified in:

a) the tables of cruising levels in Appendix 3, except when otherwise specified by the appropriate ATS authority for flight at or below 900 m (3 000 ft) above mean sea level; or

b) a modified table of cruising levels, when so prescribed in accordance with Appendix 3 for flight above FL 410.

5.3.2 Communications

An IFR flight operating outside controlled airspace but within or into areas, or along routes, designated by the appropriate ATS authority in accordance with 3.3.1.2 c) or d) shall maintain an air-ground voice communication watch on the appropriate communication channel and establish two-way communication, as necessary, with the air traffic services unit providing flight information service.

5.3.3 Position reports

An IFR flight operating outside controlled airspace and required by the appropriate ATS authority to:

— submit a flight plan,

— maintain an air-ground voice communication watch on the appropriate communication channel and establish two-way communication, as necessary, with the air traffic services unit providing flight information service, shall report position as specified in 3.6.3 for controlled flights.

APPENDIX 1. SIGNALS

- a) **DISTRESS SIGNALS.** The following signals, used either together or separately, mean that grave and imminent danger threatens and immediate assistance is requested:

Note 1: None of the provisions in this section shall prevent the use, by an aircraft in distress, of any means at its disposal to attract attention, make known its position, and obtain help.

Note 2: For full details of telecommunication transmission procedures for the distress and urgency signals, see ICAO Annex 10, Volume II, Chapter 5.

Note 3: For details of the search and rescue visual signals, see ICAO Annex 12.

- 1) A signal made by radiotelegraphy or by any other signalling method consisting of the group SOS (••• — — — •••) in the Morse Code;
- 2) A signal sent by radiotelephony consisting of the spoken word MAYDAY;
- 3) Rockets or shells throwing red lights, fired one at a time at short intervals; and
- 4) A parachute flare showing a red light.

Note: Article 41 of the ITU Radio Regulations (Nos. 3268, 3270, and 3271 refer) provides information on the alarm signals for actuating radiotelegraph and radiotelephone auto-alarm systems:

- *3268 The radiotelegraph alarm signal consists of a series of 12 dashes sent in 1 minute, the duration of each dash being 4 seconds and the duration of the interval between consecutive dashes 1 second. It may be transmitted by hand, but its transmission by means of an automatic instrument is recommended.*
 - *3270 The radiotelephone alarm signal consists of two substantially sinusoidal audio frequency tones transmitted alternately. One tone shall have a frequency of 2 200 Hz and the other a frequency of 1 300 Hz, the duration of each tone being 250 milliseconds.*
 - *3271 The radiotelephone alarm signal, when generated by automatic means, shall be sent continuously for a period of at least 30 seconds but not exceeding 1 minute; when generated by other means, the signal shall be sent as continuously as practicable over a period of approximately 1 minute.*
- b) The following signals, used either together or separately, mean that an aircraft wishes to give notice of difficulties which compel it to land without requiring immediate assistance:
- 1) The repeated switching on and off of the landing lights; or
 - 2) The repeated switching on and off of the navigation lights in such manner as to be distinct from flashing navigation lights.
- c) The following signals, used either together or separately, mean that an aircraft has a very urgent message to transmit concerning the safety of a ship, aircraft, or other vehicle, or of some person on board or within sight:
- 1) A signal made by radiotelegraphy or by any other signalling method consisting of the group XXX;
 - 2) A signal sent by radiotelephony consisting of the spoken words PAN, PAN; or
 - 3) An urgency message sent via data link which transmits the intent of the words PAN, PAN.
- d) **VISUAL SIGNALS USED TO WARN AN UNAUTHORISED AIRCRAFT.** By day and by night, a series of projectiles discharged from the ground at intervals of 10 seconds, each showing, on bursting, red and green lights or stars, will indicate to an unauthorised aircraft that it is flying in or about to enter a restricted, prohibited, or danger area, and that the aircraft is to take such remedial action as may be necessary.

- e) SIGNALS FOR AERODROME TRAFFIC. Aerodrome controllers shall use and pilots shall obey the following light and pyrotechnic signals:

Light		From Aerodrome Control to:	
		Aircraft in Flight	Aircraft on the Ground
Directed towards aircraft concerned (See Figure 1)	Steady green	Cleared to land	Cleared for take-off
	Steady red	Give way to other aircraft and continue circling	Stop
	Series of green flashes	Return for landing*	Cleared to taxi
	Series of red flashes	Aerodrome unsafe, do not land	Taxi clear of landing area in use
	Series of white flashes	Land at this aerodrome and proceed to ramp*	Return to starting point on the aerodrome
	Red pyrotechnic	Notwithstanding any previous instructions, do not land for the time being	

* Clearances to land and to taxi will be given in due course.

Table 4. Light and Pyrotechnic Signals

Figure 1.

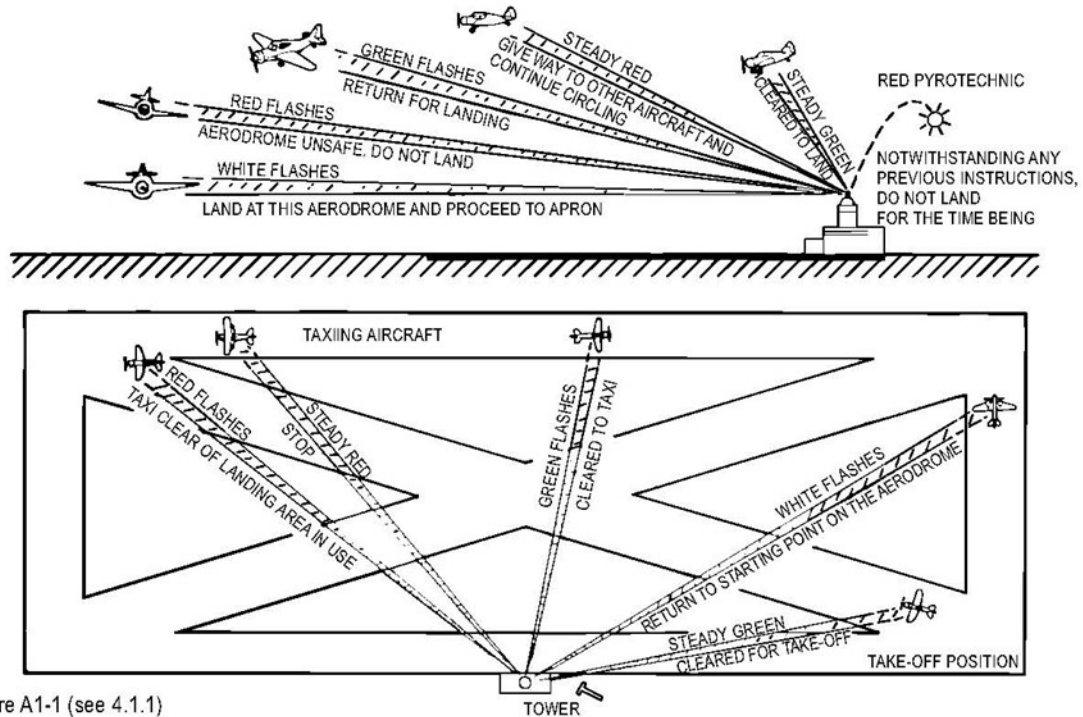


Figure A1-1 (see 4.1.1)

- f) Pilots shall acknowledge aerodrome controller signals as follows:
- 1) When in flight:
 - (i) During the hours of daylight, by rocking the aircraft's wings; and
Note: This signal should not be expected on the base and final legs of the approach.
 - (ii) During the hours of darkness, by flashing on and off twice the aircraft's landing lights or, if not so equipped, by switching on and off twice its navigation lights.
 - g) When on the ground:
 - 1) During the hours of daylight, by moving the aircraft's ailerons or rudder; and
 - 2) During the hours of darkness, by flashing on and off twice the aircraft's landing lights or, if not so equipped, by switching on and off twice its navigation lights.
 - h) Aerodrome authorities shall use the following visual ground signals during the following situations:
 - 1) PROHIBITION OF LANDING. A horizontal red square panel with yellow diagonals (Figure 2) when displayed in a signal area indicates that landings are prohibited and that the prohibition is liable to be prolonged.

Figure 2.



- 2) NEED FOR SPECIAL PRECAUTIONS WHILE APPROACHING OR LANDING. A horizontal red square panel with one yellow diagonal (Figure 3) when displayed in a signal area indicates that owing to the bad state of the manoeuvring area, or for any other reason, special precautions shall be observed in approaching to land or in landing.

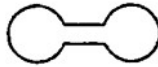
Figure 3.



- 3) USE OF RUNWAYS AND TAXIWAYS.

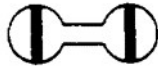
- (iii) A horizontal white dumb-bell (Figure 4) when displayed in a signal area indicates that aircraft are required to land, take off, and taxi on runways and taxiways only.

Figure 4.



- (iv) The same horizontal white dumb-bell as in Figure 4, but with a black bar placed perpendicular to the shaft across each circular portion of the dumb-bell (Figure 5) when displayed in a signal area indicates that aircraft are required to land and take off on runways only, but other manoeuvres need not be confined to runways and taxiways.

Figure 5.



- 4) CLOSED RUNWAYS AND TAXIWAYS. Crosses of a single contrasting colour, yellow or white (Figure 6), displayed horizontally on runways and taxiways or parts thereof indicate an area unfit for movement of aircraft.

Figure 6.

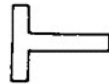


- 5) DIRECTIONS FOR LANDING OR TAKE-OFF.

- (v) A horizontal white or orange landing T (Figure 7) indicates the direction to be used by aircraft for landing and take-off, which shall be in a direction parallel to the shaft of the T towards the crossarm.

Note: When used at night, the landing T is either illuminated or outlined in white lights.

Figure 7.



- (vi) A set of two digits (Figure 8) displayed vertically at or near the aerodrome control tower indicates to aircraft on the manoeuvring area the direction for take-off, expressed in units of 10 degrees to the nearest 10 degrees of the magnetic compass.

Figure 8.



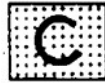
- 6) **RIGHT-HAND TRAFFIC.** When displayed in a signal area, or horizontally at the end of the runway or strip in use, a right-hand arrow of conspicuous colour (Figure 9) indicates that turns are to be made to the right before landing and after take-off.

Figure 9.



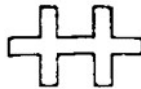
- 7) **AIR TRAFFIC SERVICES REPORTING OFFICE.** The letter C displayed vertically in black against a yellow background (Figure 10) indicates the location of the ATS reporting office.

Figure 10.



- 8) **GLIDER FLIGHTS IN OPERATION.** A double white cross displayed horizontally (Figure 11) in the signal area indicates that the aerodrome is being used by gliders and that glider flights are being performed.

Figure 11.



- 9) The following marshalling signals shall be used from a signalman to an aircraft.
- 10) For heavier-than-air aircraft, the signalman shall be positioned forward of the left wing tip within view of the pilot and, for helicopters, where the signalman can best be seen by the pilot.

Note 1: These signals are designed for use by the signalman, with hands illuminated as necessary to facilitate observation by the pilot, and facing the aircraft in a position.

Note 2: The meaning of the relevant signals remains the same if bats, illuminated wands, or torchlights are held.

Note 3: The aircraft engines are numbered, for the signalman facing the aircraft, from right to left (i.e., No. 1 engine being the port outer engine).

Note 4: Signals marked with an asterisk are designed for use to hovering helicopters.

Note 5: References to wands may also be read to refer to daylight-fluorescent table-tennis bats or gloves (daytime only).

Note 6: References to the signalman may also be read to refer to marshaller.

- 11) Prior to using the following signals, the signalman shall ascertain that the area within which an aircraft is to be guided is clear of objects which the aircraft might otherwise strike.

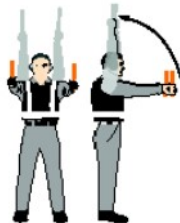
Note: The design of many aircraft is such that the path of the wing tips, engines, and other extremities cannot always be monitored visually from the flight deck while the aircraft is being manoeuvred on the ground.



1. Wing walker/guide

Raise right hand above head level with wand pointing up; move left-hand wand pointing down toward body.

Note: This signal provides an indication by a person positioned at the aircraft wing tip to the pilot/marshaller/push-back operator that the aircraft movement on/off a parking position would be unobstructed.



2. Identify gate

Raise fully extended arms straight above head with wands pointing up.



3. Proceed to next signalman or as directed by tower/ground control

Point both arms upward; move and extend arms outward to sides of body and point with wands to direction of next signalman or taxi area.



4. Straight ahead

Bend extended arms at elbows and move wands up and down from chest height to head.



5 a). Turn left (from pilot's point of view)

With right arm and wand extended at a 90-degree angle to body, make "come ahead" signal with left hand. The rate of signal motion indicates to pilot the rate of aircraft turn.



5 b). Turn right (from pilot's point of view)

With left arm and wand extended at a 90-degree angle to body, make "come ahead" signal with right hand. The rate of signal motion indicates to pilot the rate of aircraft turn.



6 a). Normal stop

Fully extend arms and wands at a 90-degree angle to sides and slowly move to above head until wands cross.



6 b). Emergency stop

Abruptly extend arms and wands to top of head, crossing wands.



7 a). Set brakes

Raise hand just above shoulder height with open palm. Ensuring eye contact with flight crew, close hand into a fist. Do not move until receipt of "thumbs up" acknowledgement from flight crew.



7 b). Release brakes

Raise hand just above shoulder height with hand closed in a fist. Ensuring eye contact with flight crew, open palm. Do not move until receipt of "thumbs up" acknowledgement from flight crew.



8 a). Chocks inserted

With arms and wands fully extended above head, move wands inward in a “jabbing” motion until wands touch. Ensure acknowledgement is received from flight crew.



8 b). Chocks removed

With arms and wands fully extended above head, move wands outward in a “jabbing” motion. Do not remove chocks until authorised by flight crew.



9. Start engine(s)

Raise right arm to head level with wand pointing up and start a circular motion with hand; at the same time, with left arm raised above head level, point to engine to be started.



10. Cut engines

Extend arm with wand forward of body at shoulder level; move hand and wand to top of left shoulder and draw wand to top of right shoulder in a slicing motion across throat.



11. Slow down

Move extended arms downward in a “patting” gesture, moving wands up and down from waist to knees.



12. Slow down engine(s) on indicated side

With arms down and wands toward ground, wave either right or left wand up and down indicating engine(s) on left or right side respectively should be slowed down.



13. Move back

With arms in front of body at waist height, rotate arms in a forward motion. To stop rearward movement, use signal 6 a) or 6 b).



14 a). Turns while backing (for tail to starboard)

Point left arm with wand down and bring right arm from overhead vertical position to horizontal forward position, repeating right-arm movement.



14 b). Turns while backing (for tail to port)

Point right arm with wand down and bring left arm from overhead vertical position to horizontal forward position, repeating left-arm movement.



15. Affirmative/all clear

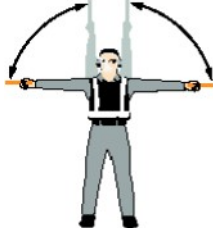
Raise right arm to head level with wand pointing up or display hand with "thumbs up"; left arm remains at side by knee.

Note: This signal is also used as a technical/servicing communication signal.



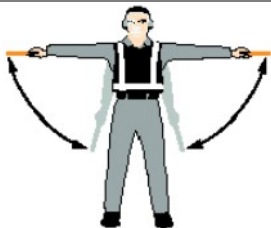
***16. Hover**

Fully extend arms and wands at a 90-degree angle to sides.



***17. Move upward**

Fully extend arms and wands at a 90-degree angle to sides and, with palms turned up, move hands upward. Speed of movement indicates rate of ascent.



***18. Move downward**

Fully extend arms and wands at a 90-degree angle to sides and, with palms turned down, move hands downward. Speed of movement indicates rate of descent.



***19 a). Move horizontally left (from pilot's point of view)**

Extend arm horizontally at a 90-degree angle to right side of body. Move other arm in same direction in a sweeping motion.



***19 b). Move horizontally right (from pilot's point of view)**

Extend arm horizontally at a 90-degree angle to left side of body. Move other arm in same direction in a sweeping motion.



***20. Land**

Cross arms with wands downward and in front of body.



21. Fire

Move right-hand wand in a “fanning” motion from shoulder to knee, while at the same time pointing with left-hand wand to area of fire.



22. Hold position/stand by

Fully extend arms and wands downward at a 45-degree angle to sides. Hold position until aircraft is clear for next manoeuvre.



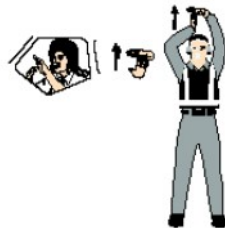
23. Dispatch aircraft

Perform a standard salute with right hand and/or wand to dispatch the aircraft. Maintain eye contact with flight crew until aircraft has begun to taxi.



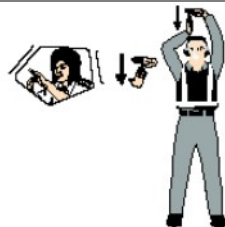
24. Do not touch controls (technical/servicing communication signal)

Extend right arm fully above head and close fist or hold wand in horizontal position; left arm remains at side by knee.



25. Connect ground power (technical/servicing communication signal)

Hold arms fully extended above head; open left hand horizontally and move fingertips of right hand into and touch open palm of left hand (forming a “T”). At night, illuminated wands can also be used to form the “T” above head.



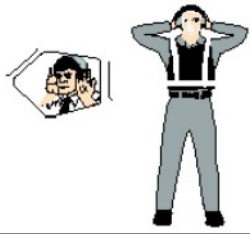
26. Disconnect power (technical/servicing communication signal)

Hold arms fully extended above head with fingertips of right hand touching open horizontal palm of left hand (forming a “T”); then move right hand away from the left. Do not disconnect power until authorised by flight crew. At night, illuminated wands can also be used to form the “T” above head.



27. Negative (technical/servicing communication signal)

Hold right arm straight out at 90 degrees from shoulder and point wand down to ground or display hand with “thumbs down”; left hand remains at side by knee.



**28. Establish communication via interphone
(technical/servicing communication signal)**

Extend both arms at 90 degrees from body and move hands to cup both ears.



**29. Open/close stairs (technical/servicing communication
signal)**

With right arm at side and left arm raised above head at a 45-degree angle, move right arm in a sweeping motion towards top of left shoulder.

Note: This signal is intended mainly for aircraft with the set of integral stairs at the front.

12) SIGNALS FROM THE PILOT OF AN AIRCRAFT TO A SIGNALMAN.

13) InterThe PIC or CP shall use the following signals when communicating with a signalman:

Note 1: These signals are designed for use by a pilot on the flight deck with hands plainly visible to the signalman, and illuminated as necessary to facilitate observation by the signalman.

Note 2: The aircraft engines are numbered in relation to the signalman facing the aircraft, from right to left (e.g., No. 1 engine being the port outer engine).

- i. BRAKES ENGAGED. Raise arm and hand, with fingers extended, horizontally in front of face, then clench fist.
- ii. BRAKES RELEASED. Raise arm, with fist clenched, horizontally in front of face, then extend fingers.
- iii. *Note: The moment the fist is clenched or the fingers are extended indicates, respectively, the moment of brake engagement or release.*
- iv. INSERT CHOCKS. Arms extended, palms outward, move hands inward to cross in front of face.
- v. REMOVE CHOCKS. Hands crossed in front of face, palms outward, move arms outward.
- vi. READY TO START ENGINE(S). Raise the appropriate number of fingers on one hand indicating the number of the engine to be started.

APPENDIX 2-INTERCEPTION OF CIVIL AIRCRAFT

- a) Bangladesh shall observe the following principles regarding the interception of civil aircraft:

- 1) Interception of civil aircraft will be undertaken only as a last resort.
- 2) If undertaken, an interception will be limited to determining the identity of the aircraft, unless it is necessary to return the aircraft to its planned track, direct it beyond the boundaries of national airspace, guide it away from a prohibited, restricted, or danger area, or instruct it to effect a landing at a designated aerodrome.
- 3) Practice interception of civil aircraft will not be undertaken.
- 4) Navigational guidance and related information will be given to an intercepted aircraft by radiotelephony, whenever radio contact can be established.
- 5) In the case where an intercepted civil aircraft is required to land in the territory overflown, the aerodrome designated for the landing is to be suitable for the safe landing of the aircraft type concerned.

Note: In the unanimous adoption by the 25th Session (Extraordinary) of the ICAO Assembly on 10 May 1984 of Article 3 bis to the Chicago Convention, the Contracting States have recognised that "every State must refrain from resorting to the use of weapons against civil aircraft in flight."

- b) Bangladesh shall ensure that:
 - 1) A standard method has been established and made available to the public for the manoeuvring of aircraft intercepting a civil aircraft that is designed to avoid any hazard for the intercepted aircraft.
 - 2) Provision is made for the use of SSR or ADS-B, where available, to identify civil aircraft in areas where they may be subject to interception.
- c) The PIC of an aircraft that is intercepted by another aircraft shall immediately:
 - 1) Follow the instructions given by the intercepting aircraft, interpreting and responding to visual signals in accordance with the specifications in paragraph (e) of this IS.
 - 2) Notify, if possible, the appropriate ATS unit.
 - 3) Attempt to establish radio communication with the intercepting aircraft or with the appropriate intercept control unit by making a general call on the emergency frequency 121.5 MHz, giving the identity of the intercepted aircraft and the nature of the flight; and if no contact has been established and if practicable, repeating this call on the emergency frequency 243 MHz.
 - 4) If equipped with an SSR transponder, select Mode A, Code 7700, unless otherwise instructed by the appropriate ATS unit.
 - 5) If equipped with ADS-B or ADS-C, select the appropriate emergency functionality, if available, unless otherwise instructed by the appropriate ATS unit.
- d) If any instructions received by radio from any sources conflict with those given by the intercepting aircraft by visual signals, the PIC of the intercepted aircraft shall request immediate clarification while continuing to comply with the visual instructions given by the intercepting aircraft.
- e) If any instructions received by radio from any sources conflict with those given by the intercepting aircraft by radio, the PIC of the intercepted aircraft shall request immediate clarification while continuing to comply with the radio instructions given by the intercepting aircraft.
- f) **RADIO COMMUNICATION DURING INTERCEPTION.** If radio contact is established during interception but communication in a common language is not possible, the PIC of each involved aircraft shall attempt to convey instructions, acknowledgement of instructions, and essential information by using the phrases and pronunciations in Table 1 of this IS and transmitting each phrase twice.

Table 1. Phrases and Pronunciations

Phrases for use by INTERCEPTING Aircraft			Phrases for use by INTERCEPTED Aircraft		
Phrase	Pronunciation ¹	Meaning	Phrase	Pronunciation ¹	Meaning
CALL SIGN	<u>KOL</u> SA-IN	What is your call sign?	CALL SIGN (call sign) ²	<u>KOL</u> SA-IN (call sign)	My call sign is (call sign)
FOLLOW	<u>FOL</u> -LO	Follow me	WILCO	<u>VILL</u> -KO	Understood Will comply
DESCEND	DEE- <u>SEND</u>	Descend for landing	CAN NOT	<u>KANN</u> NOTT	Unable to comply
YOU LAND	<u>YOU LA</u> AND	Land at this aerodrome	REPEAT	REE- <u>PEET</u>	Repeat your instruction
PROCEED	PRO- <u>SEED</u>	You may proceed	AM LOST	<u>AM LOS</u> ST	Position unknown
			MAYDAY	MAYDAY	I am in distress
			HIJACK ³	<u>HI-JACK</u>	I have been hijacked
			LAND (place name)	LAAND (place name)	I request to land at (place name)
			DESCEND	DEE- <u>SEND</u>	I require descent

Notes:

1. In the second column, syllables to be emphasised are underlined.
2. The call sign required to be given is that used in radiotelephone communications with ATS units and corresponding to the aircraft identification in the flight plan.
3. Circumstances may not always permit, nor make desirable, the use of the phrase "HIJACK."

Appendix 3 Tables of Cruising Levels

- a) The cruising levels at which a flight or a portion of a flight is to be conducted shall be in terms of:
 - 6) FLs, for flights at or above the lowest usable FL or, where applicable, above the transition altitude; and
 - 7) Altitude, for flights below the lowest usable FL or, where applicable, at or below the transition altitude.

- b) The PIC shall observe the following cruising levels in areas where, on the basis of Regional Air Navigation Agreements and in accordance with conditions specified therein, a 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	Level		FL	Level		FL	Level		FL	Level	
	Metres	Feet		Metres	Feet		Metres	Feet		Metres	Feet
010	300	1 000	—	—	—	020	600	2 000	—	—	—
030	900	3 000	035	1 050	3 500	040	1 200	4 000	045	1 350	4 500
050	1 500	5 000	055	1 700	5 500	060	1 850	6 000	065	2 000	6 500
070	2 150	7 000	075	2 300	7 500	080	2 450	8 000	085	2 600	8 500
090	2 750	9 000	095	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	205	6 250	20 500
210	6 400	21 000	215	6 550	21 500	220	6 700	22 000	225	6 850	22 500
230	7 000	23 000	235	7 150	23 500	240	7 300	24 000	245	7 450	24 500
250	7 600	25 000	255	7 750	25 500	260	7 900	26 000	265	8 100	26 500
270	8 250	27 000	275	8 400	27 500	280	8 550	28 000	285	8 700	28 500
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 VSM of 300 m (1 000 ft) is prescribed for use, under specified conditions, by aircraft operating above FL 410 within designated portions of the airspace.

** Magnetic track, or in polar areas at latitudes higher than 70 degrees and within such extensions to those areas as may be prescribed by the appropriate ATS authorities, grid tracks as determined by a network of lines parallel to the Greenwich Meridian superimposed on a polar stereographic chart in which the direction towards the North Pole is employed as the Grid North.

*** Except where, on the basis of Regional Air Navigation Agreements, from 090 to 269 degrees and from 270 to 089 degrees is prescribed to accommodate predominant traffic directions and appropriate transition procedures to be associated therewith are specified.

c) The PIC shall observe the following cruising levels in other areas not specified in paragraph (a) of this IS.

TRACK*											
From 000 Degrees to 179 Degrees**						From 180 Degrees to 359 Degrees**					
IFR Flights			VFR Flights			IFR Flights			VFR Flights		
FL	Level		FL	Level		FL	Level		FL	Level	
	Metres	Feet		Metres	Feet		Metres	Feet		Metres	Feet
010	300	1 000	—	—	—	020	600	2 000	—	—	—
030	900	3 000	035	1 050	3 500	040	1 200	4 000	045	1 350	4 500
050	1 500	5 000	055	1 700	5 500	060	1 850	6 000	065	2 000	6 500
070	2 150	7 000	075	2 300	7 500	050	2 450	8 000	085	2 600	8 500
090	2 750	9 000	095	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	205	6 250	20 500
210	6 400	21 000	215	6 550	21 500	220	6 700	22 000	225	6 850	22 500
230	7 000	23 000	235	7 150	23 500	240	7 300	24 000	245	7 450	24 500
250	7 600	25 000	255	7 750	25 500	260	7 900	26 000	265	8 100	26 500
270	8 250	27 000	275	8 400	27 500	280	8 550	28 000	285	8 700	28 500
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	420	12 800	42 000	430	13 100	43 000	440	13 400	44 000
450	13 700	45 000	460	14 000	46 000	470	14 350	47 000	480	14 650	48 000
490	14 950	49 000	500	15 250	50 000	510	15 550	51 000	520	15 850	52 000
etc.	etc.	etc.	etc.	etc.	etc.	etc.	etc.	etc.	etc.	etc.	etc.

*Magnetic track, or in polar areas at latitudes higher than 70 degrees and within such extensions to those areas as may be prescribed by the appropriate ATS authorities, grid tracks as determined by a network of lines parallel to the Greenwich Meridian superimposed on a polar stereographic chart in which the direction towards the North Pole is employed as the Grid North.

**Except where, on the basis of Regional Air Navigation Agreements, from 090 to 269 degrees and from 270 to 089 degrees is prescribed to accommodate predominant traffic directions and appropriate transition procedures to be associated therewith are specified.

Note 1: ICAO Doc 9574, Manual on the Implementation of a 300 m (1 000 ft) Vertical Separation Minimum Between FL 290 and FL 410 Inclusive, contains guidance material relating to vertical separation.

Note 2: ICAO Doc 8168, Procedures for Air Navigation Services – Aircraft Operations (PANS-OPS), contains guidance for the system of FLs.

Appendix -4; Remotely Piloted Aircraft

- g) The following application shall be used by an operator that intends to apply for approval to operate an RPA within Bangladesh.

Application for Remotely Piloted Aircraft Operations by a [STATE] Operator <i>(To be completed by an operator for an approval to conduct operations in [STATE])</i>	
Section 1. Applicant information	
1a. Operator, or if applicable, Company registered name and trading name if different. Address: mailing address; telephone; fax; and email.	2. Pilot(s) of remote aircraft. Address: mailing address; telephone; fax; and email.
1b. RPA operator certificate number:	2b. Remote pilot licence number(s) for each pilot:
3. Insurance Information: Name of Insurer and address, including telephone: fax and email.	
Section 2: Aircraft identification	
1. Aircraft registration number: _____ 2. Aircraft identification to be used in radiotelephony, if applicable: _____ 3. Aircraft type: _____ 4. Aircraft description (e.g., Engines, propellers, wing span): _____ 5. Aircraft controlled via <input type="checkbox"/> Line of sight <input type="checkbox"/> Satellite <input type="checkbox"/> Computer programme <input type="checkbox"/> Other _____ 6. Aircraft equipment (e.g. Sprayers, -camera, type, live feed or photographs): _____ 7. If camera equipped, aircraft camera transmission destination: <input type="checkbox"/> Operator/Company home base <input type="checkbox"/> Other (identify): _____ 8. Frequency band to be used: _____ 9. Aircraft radio station licence number, if applicable: _____	
Section 3. Description of intended operation	
1. Proposed type(s) of operation: <input type="checkbox"/> Aerial mapping; <input type="checkbox"/> Aerial surveying; <input type="checkbox"/> Aerial photography; <input type="checkbox"/> Aerial advertising <input type="checkbox"/> Aerial surveillance and inspection; <input type="checkbox"/> Forest fire management; <input type="checkbox"/> Meteorological service <input type="checkbox"/> Search and rescue; <input type="checkbox"/> Accident/incident investigation; <input type="checkbox"/> Cargo, indicate type of cargo: _____ Is cargo classified as dangerous goods: <input type="checkbox"/> yes; <input type="checkbox"/> no Is payload internal <input type="checkbox"/> or external <input type="checkbox"/> <input type="checkbox"/> Other: _____	
2. Flight Rules: <input type="checkbox"/> VFR; <input type="checkbox"/> IFR; <input type="checkbox"/> IMC; <input type="checkbox"/> VLOS	
3. Dates/Geographic areas/description of intended operations and proposed route structure:	

- a. Date(s) of intended flight (dd/mm/yyyy): _____
- b. Point of departure: _____
- c. Destination: _____
- d. Route to be followed: _____
- e. Cruising speeds(s): _____
- f. Cruising level(s)/altitude: _____
- g. Duration/frequency of flight: _____
- h. Emergency set down sites along proposed route: _____
- i. For emergency landings:
 - 1. responsible person for aircraft recovery: _____
 - 2. responsible person for clean up if impact occurs: _____
- j. Emergency contact telephone numbers: _____

Section 4. RPA Characteristics

1. RPA Characteristics:

- a. Type of aircraft: _____
- b. Maximum certificated take-off mass: _____
- c. Number of engines: _____
- d. Take-off and landing requirements: _____
- e. Detect and avoid capabilities: _____
- f. Number and location of RPSs as well as handover procedures between RPSs, if applicable: _____
- g. Payload information/description: _____
- h. Visual control for take-off and/or landing or take-off and landing handled through camera on board _____

2. Performance characteristics:

- a. Operating speeds: _____
- b. Typical and maximum climb rates: _____
- c. Typical and maximum descent rates: _____
- d. Typical and maximum turn rates: _____
- e. Maximum aircraft endurance: _____
- f. Other, such as limitations for wind, icing, precipitation: _____

3. Communications, Navigation and Surveillance capabilities

- a. Aeronautical safety communications frequencies and equipment:
 - i. ATC communications, including any alternate means of communication: _____
 - ii. Command and control links (C2) including performance parameters and designated operational coverage area; _____
 - iii. Communications between RP and RPA observer, if applicable; _____
- b. Navigation equipment; and _____
- c. Surveillance equipment (e.g. SSR transponder, ADS-B out). _____

4. Emergency procedures:

- a. Communications failure with ATC: _____
- b. C2 failure: _____
- c. RPA observer communications failure, if applicable: _____
- d. Satellite failure, if applicable: _____
- e. Recovery during unplanned landings: _____
- f. Communication procedure with local law enforcement in case of impact: _____

Attach copies of the following, in English translation if original documents are not in the English language:

- Insurance certificate;
- Noise certification document issued in accordance with ICAO Annex 16;
- Operator security programme; and
- Proposed flight plan to be filed with ATC

Signature of Applicant:

Date (dd/mm/yyyy):

Name and title:

Section 5 to be completed by the CAA

Evaluated by (name and office):

CAA decision:

Approval granted Not approved

Remarks:

Signature of CAA representative:

Date (dd/mm/yyyy):

APPENDIX 5- UNMANNED FREE BALLOON

1. Classification of unmanned free balloons

Unmanned free balloons shall be classified as:

- a) light: an unmanned free balloon which carries a payload of one or more packages with a combined mass of less than 4 kg, unless qualifying as a heavy balloon in accordance with c) 2), 3) or 4) below; or
- b) medium: an unmanned free balloon which carries a payload of two or more packages with a combined mass of 4 kg or more, but less than 6 kg, unless qualifying as a heavy balloon in accordance with c) 2), 3) or 4) below; or
- c) heavy: an unmanned free balloon which carries a payload which:
 - 1) has a combined mass of 6 kg or more; or
 - 2) includes a package of 3 kg or more; or
 - 3) includes a package of 2 kg or more with an area density of more than 13 g per square centimetre; or
 - 4) uses a rope or other device for suspension of the payload that requires an impact force of 230 N or more to separate the suspended payload from the balloon.

Note 1.— The area density referred to in c) 3) is determined by dividing the total mass in grams of the payload package by the area in square centimetres of its smallest surface.

Note 2.— See Figure A5-1.

2. General operating rules

- 2.1 An unmanned free balloon shall not be operated without appropriate authorization from the State from which the launch is made.
- 2.2 An unmanned free balloon, other than a light balloon used exclusively for meteorological purposes and operated in the manner prescribed by the appropriate authority, shall not be operated across the territory of another State without appropriate authorization from the other State concerned.
- 2.3 The authorization referred to in 2.2 shall be obtained prior to the launching of the balloon if there is reasonable expectation, when planning the operation, that the balloon may drift into airspace over the territory of another State. Such authorization may be obtained for a series of balloon flights or for a particular type of recurring flight, e.g. atmospheric research balloon flights.
- 2.4 An unmanned free balloon shall be operated in accordance with conditions specified by the State of Registry and the State(s) expected to be overflown.
- 2.5 An unmanned free balloon shall not be operated in such a manner that impact of the balloon, or any part thereof, including its payload, with the surface of the earth, creates a hazard to persons or property not associated with the operation.
- 2.6 A heavy unmanned free balloon shall not be operated over the high seas without prior coordination with the appropriate ATS authority.

3. Operating limitations and equipment requirements

- 3.1 A heavy unmanned free balloon shall not be operated without authorization from the appropriate ATS authority at or through any level below 18 000 m (60 000 ft) pressure-altitude at which:
 - a) there are clouds or obscuring phenomena of more than four oktas coverage; or
 - b) the horizontal visibility is less than 8 km.
- 3.2 A heavy or medium unmanned free balloon shall not be released in a manner that will cause it to fly lower than 300 m (1 000 ft) over the congested areas of cities, towns or settlements or an open-air assembly of persons not associated with the operation.
- 3.3 A heavy unmanned free balloon shall not be operated unless:
 - a) it is equipped with at least two payload flight-termination devices or systems, whether automatic or operated by telecommand, that operate independently of each other;
 - b) for polyethylene zero-pressure balloons, at least two methods, systems, devices, or combinations thereof, that function independently of each other are employed for terminating the flight of the balloon envelope;

Note.— Superpressure balloons do not require these devices as they quickly rise after payload discharge and burst without the need for a device or system designed to puncture the balloon envelope. In this context a superpressure balloon is a simple non-

extensible envelope capable of withstanding a differential of pressure, higher inside than out. It is inflated so that the smaller night-time pressure of the gas still fully extends the envelope. Such a superpressure balloon will keep essentially constant level until too much gas diffuses out of it.

c) the balloon envelope is equipped with either a radar reflective device(s) or radar reflective material that will present an echo to surface radar operating in the 200 MHz to 2 700 MHz frequency range, and/or the balloon is equipped with such other devices as will permit continuous tracking by the operator beyond the range of ground-based radar.

3.4 A heavy unmanned free balloon shall not be operated under the following conditions:

a) in an area where ground-based SSR equipment is in use, unless it is equipped with a secondary surveillance radar transponder, with pressure-altitude reporting capability, which is continuously operating on an assigned code, or which can be turned on when necessary by the tracking station; or

b) in an area where ground-based ADS-B equipment is in use, unless it is equipped with an ADS-B transmitter, with pressure-altitude reporting capability, which is continuously operating or which can be turned on when necessary by the tracking station.

3.5 An unmanned free balloon that is equipped with a trailing antenna that requires a force of more than 230 N to break it at any point shall not be operated unless the antenna has coloured pennants or streamers that are attached at not more than 15 m intervals.

3.6 A heavy unmanned free balloon shall not be operated below 18 000 m (60 000 ft) pressure-altitude between sunset and sunrise or such other period between sunset and sunrise (corrected to the altitude of operation) as may be prescribed by the appropriate ATS authority, unless the balloon and its attachments and payload, whether or not they become separated during the operation, are lighted.

3.7 A heavy unmanned free balloon that is equipped with a suspension device (other than a highly conspicuously coloured open parachute) more than 15 m long shall not be operated between sunrise and sunset below 18 000 m (60 000 ft) pressure-altitude unless the suspension device is coloured in alternate bands of high conspicuity colours or has coloured pennants attached.

4. Termination

The operator of a heavy unmanned free balloon shall activate the appropriate termination devices required by 3.3 a) and b) above:

a) when it becomes known that weather conditions are less than those prescribed for the operation;

b) if a malfunction or any other reason makes further operation hazardous to air traffic or to persons or property on the surface; or c) prior to unauthorized entry into the airspace over another State's territory.

5. Flight notification

5.1 Pre-flight notification

5.1.1 Early notification of the intended flight of an unmanned free balloon in the medium or heavy category shall be made to the appropriate air traffic services unit not less than seven days before the date of the intended flight.

5.1.2 Notification of the intended flight shall include such of the following information as may be required by the appropriate air traffic services unit:

a) balloon flight identification or project code name;

b) balloon classification and description;

c) SSR code, aircraft address or NDB frequency, as applicable;

d) operator's name and telephone number;

e) launch site;

f) estimated time of launch (or time of commencement and completion of multiple launches);

g) number of balloons to be launched and the scheduled interval between launches (if multiple launches);

h) expected direction of ascent;

i) cruising level(s) (pressure-altitude);

j) the estimated elapsed time to pass 18 000 m (60 000 ft) pressure-altitude or to reach cruising level if at or below 18 000 m (60 000 ft), together with the estimated location;

Note.— If the operation consists of continuous launchings, the time to be included is the estimated time at which the first and the last in the series will reach the appropriate level (e.g. 122136Z–130330Z).

k) the estimated date and time of termination of the flight and the planned location of the impact/recovery area. In the case of balloons carrying out flights of long duration, as a result of which the date and time of termination of the flight and the location of impact cannot be forecast with accuracy, the term “long duration” shall be used.

Note.— If there is to be more than one location of impact/recovery, each location is to be listed together with the appropriate estimated time of impact. If there is to be a series of continuous impacts, the time to be included is the estimated time of the first and the last in the series (e.g. 070330Z–072300Z).

5.1.3 Any changes in the pre-launch information notified in accordance with

5.1.2 above shall be forwarded to the air traffic services unit concerned not less than 6 hours before the estimated time of launch, or in the case of solar or cosmic disturbance investigations involving a critical time element, not less than 30 minutes before the estimated time of the commencement of the operation.

5.2 Notification of launch

Immediately after a medium or heavy unmanned free balloon is launched the operator shall notify the appropriate air traffic services unit of the following:

- a) balloon flight identification;
- b) launch site;
- c) actual time of launch;
- d) estimated time at which 18 000 m (60 000 ft) pressure-altitude will be passed, or the estimated time at which the cruising level will be reached if at or below 18 000 m (60 000 ft), and the estimated location; and
- e) any changes to the information previously notified in accordance with 5.1.2 g) and h).

5.3 Notification of cancellation

The operator shall notify the appropriate air traffic services unit immediately when it is known that the intended flight of a medium or heavy unmanned free balloon, previously notified in accordance with 5.1, has been cancelled.

6. Position recording and reports

6.1 The operator of a heavy unmanned free balloon operating at or below 18 000 m (60 000 ft) pressure-altitude shall monitor the flight path of the balloon and forward reports of the balloon’s position as requested by air traffic services. Unless air traffic services require reports of the balloon’s position at more frequent intervals, the operator shall record the position every 2 hours.

6.2 The operator of a heavy unmanned free balloon operating above 18 000 m (60 000 ft) pressure-altitude shall monitor the flight progress of the balloon and forward reports of the balloon’s position as requested by air traffic services. Unless air traffic services require reports of the balloon’s position at more frequent intervals, the operator shall record the position every 24 hours.

6.3 If a position cannot be recorded in accordance with 6.1 and 6.2, the operator shall immediately notify the appropriate air traffic services unit. This notification shall include the last recorded position. The appropriate air traffic services unit shall be notified immediately when tracking of the balloon is re-established.

6.4 One hour before the beginning of planned descent of a heavy unmanned free balloon, the operator shall forward to the appropriate ATS unit the following information regarding the balloon:

- a) the current geographical position;
- b) the current level (pressure-altitude);
- c) the forecast time of penetration of 18 000 m (60 000 ft) pressure-altitude, if applicable;
- d) the forecast time and location of ground impact.

6.5 The operator of a heavy or medium unmanned free balloon shall notify the appropriate air traffic services unit when the operation is ended.