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# AFIS Manual

**EUROCONTROL Manual  
for Aerodrome Flight  
Information Service (AFIS)**

Cooperative Network Design

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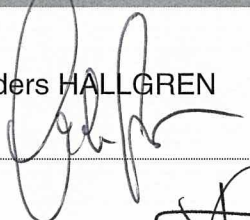
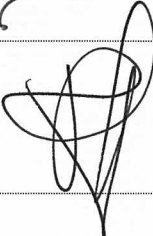


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<p>This document contains comprehensive guidance material with the aim to assist in implementing Aerodrome Flight Information Service (AFIS) at aerodromes where an aerodrome control service is not clearly justified by the complexity, density of air traffic, topographic and prevailing meteorological conditions. In circumstances where it is expected that the complexity and/or density of air traffic at an aerodrome will increase with time, a State may chose to provide AFIS as an intermediate step between no service at all and an aerodrome control service.</p>		
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## DOCUMENT APPROVAL

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## **EXECUTIVE SUMMARY**

This document contains comprehensive guidance material with the aim of achieving a common application of Aerodrome Flight Information Service (AFIS) at aerodromes where an aerodrome control service is not clearly justified by the complexity, density of air traffic, topographic and prevailing meteorological conditions. In circumstances where it is expected that the complexity and/or density of air traffic at an aerodrome will increase with time, a State may chose to provide AFIS as an intermediate step between no service at all and an aerodrome control service.

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# CHAPTER 1 – Definitions

All definitions are sourced from ICAO unless annotated with an \*

**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.

*Note.— The term “aerodrome” where used in the provisions relating to flight plans and ATS messages is intended to cover also sites other than aerodromes which may be used by certain types of aircraft, e.g. helicopters or balloons.*

**Aerodrome flight information service officer (AFISO)\*.** A person properly trained, competent and duly authorized to provide aerodrome flight information service and, if necessary, licensed.

**Aerodrome flight information service unit.** A unit established to provide flight information service and alerting service for aerodrome traffic at AFIS aerodromes.

**Aerodrome elevation.** The elevation of the highest point of the landing area.

**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 circuit.** The specified path to be flown by aircraft operating in the vicinity of an aerodrome.

**Aeronautical ground light.** Any light specially provided as an aid to air navigation, other than a light displayed on an aircraft.

**Aircraft proximity.** A situation in which, in the opinion of a pilot or air traffic services personnel, the distance between aircraft as well as their relative positions and speed have been such that the safety of the aircraft involved may have been compromised.

An aircraft proximity is classified as follows:

**Risk of collision.** The risk classification of an aircraft proximity in which serious risk of collision has existed.

**Safety not assured.** The risk classification of an aircraft proximity in which the safety

of the aircraft may have been compromised.

**No risk of collision.** The risk classification of an aircraft proximity in which no risk of collision has existed.

**Risk not determined.** The risk classification of an aircraft proximity in which insufficient information was available to determine the risk involved, or inconclusive or conflicting evidence precluded such determination.

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

**AIRPROX.** The code word used in an air traffic incident report to designate aircraft proximity.

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

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

**Air traffic service (ATS).** 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).

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

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

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

**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.

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

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

**ATIS.** The symbol used to designate automatic terminal information service.

**Base turn.** A turn executed by the aircraft during the initial approach between the end of the outbound track and the beginning of the intermediate or final approach track. The tracks are not reciprocal.

*Note.— Base turns may be designated as being made either in level flight or while descending, according to the circumstances of each individual procedure.*

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

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

**Current flight plan (CPL).** The flight plan, including changes, if any, brought about by subsequent clearances.

*Note.— When the word “message” is used as a suffix to this term, it denotes the content and format of the current flight plan data sent from one unit to another.*

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

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

**Elevation.** The vertical distance of a point or a level, on or affixed to the surface of the earth, measured from mean sea level.

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

**Estimated time of arrival (ETA).** 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 (EAT).** 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 (FPL).** The flight plan as filed with an ATS unit by the pilot or a designated representative, without any subsequent changes.

*Note.— When the word “message” is used as a suffix to this term, it denotes the content and format of the filed flight plan data as transmitted.*

**Final approach.** That part of an instrument approach procedure which commences at the specified final approach fix or point, or where such a fix or point is not specified, a) at the end of the last procedure turn, base turn or inbound turn of a racetrack procedure, if specified; or b) at the point of interception of the last track specified in the approach procedure; and ends at a point in the vicinity of an aerodrome from which:

- 1) a landing can be made; or
- 2) a missed approach procedure is initiated.

**Flight information centre (FIC).** A unit established to provide flight information service and alerting service.

**Flight information region (FIR).** 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 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.

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

**Glide path.** A descent profile determined for vertical guidance during a final approach.

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

**Holding fix.** A geographical location that serves as a reference for a holding procedure.

**Holding procedure.** A predetermined manoeuvre which keeps an aircraft within a specified airspace while awaiting further clearance.

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

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

**IMC.** The symbol used to designate instrument meteorological conditions.

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

**Incident.** An occurrence, other than an accident, associated with the operation of an aircraft which affects or could affect the safety of operation.

*Note.— The type of incidents which are of main interest to the International Civil Aviation Organization for accident prevention studies can be found at <http://www.icao.int/anb/aig>.*

**Instrument approach procedure (IAP).** 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:

**Non-precision approach (NPA) procedure.** An instrument approach procedure which utilizes lateral guidance but does not utilize vertical guidance.

**Approach procedure with vertical guidance (APV).** An instrument procedure which utilizes lateral and vertical guidance but does not meet the requirements established for precision approach and landing operations.

**Precision approach (PA) procedure.** An instrument approach procedure using precision lateral and vertical guidance with minima as determined by the category of operation.

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

- a) a ground-based navigation aid; or
- b) computer-generated navigation data.

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

*Note 1.*— The specified minima for visual meteorological conditions are contained in Chapter 3 of Annex 2.

*Note 2.*— In a control zone, a VFR flight may proceed under instrument meteorological conditions if and as authorized by air traffic control.

**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.

**Location indicator.** A four-letter code group formulated in accordance with rules prescribed by ICAO and assigned to the location of an aeronautical fixed station.

**Local traffic.** Any aircraft, vehicle or personnel on or near the manoeuvring area, or traffic operating in the vicinity of the aerodrome, which may constitute a hazard to the aircraft concerned.

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

**Missed approach procedure.** The procedure to be followed if the approach cannot be continued.

**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).

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

**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.

**Procedure turn.** A manoeuvre in which a turn is made away from a designated track followed by a turn in the opposite direction to permit the aircraft to intercept and proceed along the reciprocal of the designated track.

*Note 1.*— Procedure turns are designated “left” or “right” according to the direction of the initial turn.

*Note 2.*— Procedure turns may be designated as being made either in level flight or while descending, according to the circumstances of each individual procedure.

**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.

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

**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.*

**Runway incursion.** Any occurrence at an aerodrome involving the incorrect presence of an aircraft, vehicle or person on the protected area of a surface designated for the landing and take-off of aircraft.

**Runway visual range (RVR).** The range over which the pilot of an aircraft on the centre line of a runway can see the runway surface markings or the lights delineating the runway or identifying its centre line.

**Slush.** Water-saturated snow which with a heel-and-toe slap-down motion against the ground will be displaced with a splatter; specific gravity: 0.5 up to 0.8.

*Note.— Combinations of ice, snow and/or standing water may, especially when rain, rain and snow, or snow is falling, produce substances with specific gravities in excess of 0.8. These substances, due to their high water/ice content, will have a transparent rather than a cloudy appearance and, at the higher specific gravities, will be readily distinguishable from slush.*

**Snow (on the ground).**

- a) *Dry snow.* Snow which can be blown if loose or, if compacted by hand, will fall apart upon release; specific gravity: up to but not including 0.35.
- b) *Wet snow.* Snow which, if compacted by hand, will stick together and tend to or form a snowball; specific gravity: 0.35 up to but not including 0.5.
- c) *Compacted snow.* Snow which has been compressed into a solid mass that resists further compression and will hold together or break up into lumps if picked up; specific gravity: 0.5 and over.

**Stopway.** A defined rectangular area on the ground at the end of take-off run available prepared as a suitable area in which an aircraft can be stopped in the case of an abandoned take-off.

**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 taxilane.* 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.

**Threshold.** The beginning of that portion of the runway usable for landing.

**Touchdown.** The point where the nominal glide path intercepts the runway.

*Note.— “Touchdown” as defined above is only a datum and is not necessarily the actual point at which the aircraft will touch the runway.*

**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.

**Traffic information area (TIA)\*.** An uncontrolled airspace of defined dimensions, extending upwards from a specified limit above the earth within which two-way communications is required for all aircraft and flight information is provided by an ATS unit.

**Traffic information zone (TIZ)\*.** An uncontrolled airspace of defined dimensions extending upwards from the surface of the earth to a specified upper limit within which two-way communications is required for all aircraft and flight information is provided by an ATS unit.

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

**Transition layer.** The airspace between the transition altitude and the transition level.

**Transition level.** The lowest flight level available for use above the transition altitude.

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

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

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

**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 approach.** An approach by an IFR flight when either part or all of an instrument approach procedure is not completed and the approach is executed in visual reference to terrain.

**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 Annex 2, Chapter 3.*

**VMC.** The symbol used to designate visual meteorological conditions.

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## CHAPTER 2 – General

2.1 Aerodrome flight information service (AFIS) is the term used to describe the provision of information useful for the safe and efficient conduct of aerodrome traffic at those aerodromes where the appropriate authority determines that the provision of aerodrome control service is not justified, or is not justified on a 24-hour basis.

2.2 In determining whether aerodrome control service or AFIS should be provided at a given aerodrome, the appropriate authorities are expected to give due consideration to the type(s) of air traffic involved, the density of air traffic, the topographical and meteorological conditions, and such other factors as may be pertinent to safety and efficiency, including the language or languages to be used in air-ground communications.

2.3 AFIS should be provided by a unit located at the aerodrome and identified as an "AFIS unit". An AFIS unit will provide flight information service and alerting service to aerodrome traffic.

2.4 The AFIS unit is not an air traffic control unit. Except for cases when relaying clearance from air traffic control (ATC), AFIS Officers (AFISO) shall only pass information and warnings to pilots. Pilots are therefore wholly responsible for maintaining proper spacing in conformity with the rules of the air.

2.5 The requirements for safety management systems are covered in Appendix G.

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# CHAPTER 3 – Procedures for AFIS

## 3.1 *General*

3.1.1 AFIS units shall issue information to aircraft in its area of responsibility to achieve a safe, orderly and expeditious flow of air traffic on and in the vicinity of an aerodrome with the object of assisting pilots in preventing collision(s) between:

- a) aircraft flying within the designated area of responsibility of the AFIS unit, including the aerodrome traffic circuits;
- b) aircraft operating on the manoeuvring area;
- c) aircraft landing and taking off;
- d) aircraft and vehicles operating on the manoeuvring area;
- e) aircraft on the manoeuvring area and obstructions on that area.

3.1.2 AFISOs shall maintain a continuous watch by visual observation, and an ATS surveillance system when authorized by and subject to conditions prescribed by the appropriate authority (see Appendix A), on all flight operations on and in the vicinity of an aerodrome as well as vehicles and personnel on the manoeuvring area.

## 3.2 *Selection of runway*

3.2.1 The term “runway-in-use” shall be used to indicate the runway or runways that, at a particular time, are considered by the AFIS unit to be the most suitable for use by the types of aircraft expected to land or take off at the aerodrome.

*Note.— Separate or multiple runways may be designated for arriving aircraft and departing aircraft.*

3.2.2 Normally, an aircraft will land and take off into wind unless safety, the runway configuration, meteorological conditions and available instrument approach procedures or air traffic conditions determine that a different direction is preferable. In selecting the runway; however, the unit providing AFIS shall take into consideration, besides surface wind speed and direction, other relevant factors such as the aerodrome traffic circuits, the length of runways, and the approach and landing aids available.



3.2.3 A runway for take-off or landing, appropriate to the operation, may be nominated for noise abatement purposes, the objective being to utilize whenever possible those runways that permit aeroplanes to avoid noise-sensitive areas during the initial departure and final approach phases of flight. Runways should not be selected for noise abatement purposes:

- a) if the runway surface conditions are adversely affected (e.g. by snow, slush, ice, water, mud, rubber, oil or other substances);
- b) for take-off when the visibility is less than 1 900 m;
- c) when wind shear has been reported or forecast or when thunderstorms are expected to affect the approach or departure; and
- d) when the crosswind component, including gusts, exceeds 28 km/h (15 kt), or the tailwind component, including gusts, exceeds 9 km/h (5 kt);
- e) for IFR traffic, for landing in conditions:
  - 1) when the ceiling is lower than 150 m (500 ft) above aerodrome elevation, or the visibility is less than 1 900 m; or
  - 2) when the approach requires use to be made of vertical minima greater than 100 m (300 ft) above aerodrome elevation and:
    - i) the ceiling is lower than 240 m (800 ft) above aerodrome elevation; or
    - ii) the visibility is less than 3 000 m.

3.2.4 Runways should not be selected for noise abatement purposes for landing operations unless they are equipped with suitable glide path guidance, e.g. ILS, or a visual approach slope indicator system for operations in visual meteorological conditions.

3.2.5 A pilot-in-command can refuse a runway-in-use suggested by an AFISO. In such circumstances, AFISOs shall provide detailed information on other local traffic that is utilizing the runway-in-use to assist the pilot in ensuring that safe spacing is maintained when using an alternative runway.

### **3.3 Initial call to AFIS**

3.3.1 For aircraft being provided with aerodrome flight information service, the initial call shall contain:

- a) designation of the station being called;
- b) call sign, type of aircraft and, for aircraft in the heavy wake turbulence category, the word "HEAVY";  
*Note.— See also paragraph 5.2.7.*
- c) position;
- d) level;
- e) intentions; and
- f) additional elements, as required by the appropriate ATS authority.

## **3.4 Information related to the operation of aircraft – GENERAL**

### **3.4.1 Traffic information to aircraft**

3.4.1.1 The following information shall be provided as appropriate:

- a) direction of flight of aircraft concerned
- b) type and wake turbulence category (if known) of aircraft concerned;
- c) level of aircraft concerned, including eventual changes;
- d) relative bearing of the aircraft concerned in terms of the 12-hour clock as well as distance from the conflicting traffic; or
  - 1) actual or estimated position of the aircraft concerned; or
  - 2) estimated times; and
- e) any other information considered relevant (e.g. approaching, crossing the traffic information area/traffic information zone (TIA/TIZ), estimated take-off or landing time).

### **3.4.2 Local traffic information**

3.4.2.1 Traffic information on local traffic shall be issued in a timely manner, either directly or through the unit providing approach control service when, in the judgement of the AFIS unit, such information is necessary in the interests of safety, or when requested by aircraft.

3.4.2.2 Local traffic shall be described so as to be easily identified by the pilot.

### **3.4.3 Runway free**

3.4.3.1 AFISOs shall provide information to departing and arriving aircraft that the runway is free when no aircraft, vehicles or other obstructions are on the runway or closer to the runway than a distance specified by the appropriate authority.

### **3.4.4 Uncertainty of position on the manoeuvring area**

3.4.4.1 Except as provided for in 3.4.4.2, a pilot in doubt as to the position of the aircraft with respect to the manoeuvring area shall immediately:

- a) stop the aircraft; and
- b) simultaneously notify the AFIS unit of the circumstances (including last known position).

3.4.4.2 In those situations where a pilot is in doubt as to the position of the aircraft with respect to the manoeuvring area, but recognizes that the aircraft is on a runway, the pilot shall immediately:

- a) notify the AFIS unit of the circumstances (including the last known position);
- b) if able to locate a nearby suitable taxiway, vacate the runway as expeditiously as possible, and then stop the aircraft.

3.4.4.3 A vehicle driver in doubt as to the position of the vehicle with respect to the manoeuvring area shall immediately:

- a) notify the AFIS unit of the circumstances (including the last known position);
- b) simultaneously, unless otherwise instructed by the AFIS unit, vacate the landing area, taxiway, or other part of the manoeuvring area, to a safe distance as expeditiously as possible, and then stop the vehicle.

3.4.4.4 In the event the AFIS unit becomes aware of an aircraft or vehicle that is lost or uncertain of its position on the manoeuvring area, appropriate information shall be provided immediately to other pilots affected and assistance provided to the aircraft or vehicle concerned to determine its position.

### 3.4.5 Wake turbulence and jet blast hazards

3.4.5.1 The responsibility for wake turbulence avoidance rests entirely with the pilot-in-command. AFIS units shall, to the extent practicable, advise aircraft of the expected occurrence of hazards caused by turbulent wake. Such information will be provided by the warning 'caution wake turbulence' and may also include relevant information on the aircraft concerned.

*Note.— Occurrence of turbulent wake hazards cannot be accurately predicted and AFIS units cannot assume responsibility for the issuance of advice on such hazards at all times, nor for its accuracy.*

3.4.5.2 In providing information, AFIS units should take into account the hazards caused by jet blast, helicopter downwash turbulence and propeller slipstream to taxiing aircraft, to aircraft taking off or landing, particularly when intersecting runways are being used, and to vehicles and personnel operating on the aerodrome.

*Note.— Jet blast, helicopter downwash turbulence and propeller slipstream can produce localized wind velocities of sufficient strength to cause damage to other aircraft, vehicles and personnel operating within the affected area. Further guidance on these effects are contained in the ICAO Air Traffic Services Planning Manual (Doc 9426), Part II, Section 5, Chapter 3.*

### 3.4.6 Essential information on aerodrome conditions

3.4.6.1 Essential information on aerodrome conditions is information necessary to safety in the operation of aircraft, which pertains to the movement area or any facilities usually associated therewith. For example, construction work on a taxi strip not connected to the runway-in-use would not be essential information to any aircraft except one that might be taxied in the vicinity of the construction work. As another example, if all traffic must be confined to runways, that fact should be considered as essential aerodrome information to any aircraft not familiar with the aerodrome.

3.4.6.2 Essential information on aerodrome conditions shall include information relating to the following:

- a) construction or maintenance work on, or immediately adjacent to the movement area;
- b) rough or broken surfaces on a runway, a taxiway or an apron, whether marked or not;
- c) snow, slush or ice on a runway, a taxiway or an apron;
- d) water on a runway, a taxiway or an apron;
- e) snow banks or drifts adjacent to a runway, a taxiway or an apron;
- f) other temporary hazards, including parked aircraft and birds on the ground or in the air;

- g) failure or irregular operation of part or all of the aerodrome lighting system;
- h) any other pertinent information.

*Note.— Up-to-date information on the conditions on aprons may not always be available to the AFIS unit. The responsibility of the AFIS unit in relation to aprons is, with respect to the provisions of 3.4.6.1 and 3.4.6.2, limited to the transmission to aircraft of the information which is provided to it by the authority responsible for the aprons.*

3.4.6.3 Essential information on aerodrome conditions shall be given to every aircraft, except when it is known that the aircraft already has received all or part of the information from other sources. The information shall be given in sufficient time for the aircraft to make proper use of it, and the hazards shall be identified as distinctly as possible.

*Note.— “Other sources” include NOTAM, ATIS broadcasts, and the display of suitable signals.*

3.4.6.4 When a not previously notified condition pertaining to the safe use by aircraft of the manoeuvring area is reported to or observed by the AFIS unit, the appropriate aerodrome authority shall be informed and operations on that part of the manoeuvring area terminated until otherwise advised by the appropriate aerodrome authority.

### **3.4.7 Abnormal aircraft configuration and condition**

3.4.7.1 Whenever an abnormal configuration or condition of an aircraft, including conditions such as landing gear not extended or only partly extended, or unusual smoke emissions from any part of the aircraft, is observed by or reported to the AFIS unit, the aircraft concerned shall be advised without delay.

3.4.7.2 When requested by the flight crew of a departing aircraft suspecting damage to the aircraft, the departure runway used shall be inspected without delay and the flight crew advised in the most expeditious manner as to whether any aircraft debris or bird or animal remains have been found or not.

### **3.4.8 Air traffic incidents**

3.4.8.1 An air traffic incident report shall be submitted, normally to the ATS unit concerned, for incidents specifically related to the provision of air traffic services involving such occurrences as aircraft proximity (AIRPROX), or other serious difficulty resulting in a hazard to aircraft, caused by, among others, faulty procedures, non-compliance with procedures, or failure of ground facilities. The report may be recorded on the ICAO model air traffic incident report form (See Appendix D).

*Note. – In EU Member States, air traffic incidents are to be reported to the authority designated by the Member State according to provisions in article 5 of Directive 2003/42/EC. The report will be made according to national regulations transposing Directive 2003/42/EC.*

## **3.5 Information related to the operation of aircraft – departing traffic**

### **3.5.1 Start-up time procedures**

3.5.1.1 At AFIS units where start up procedures are employed, or when pilots request a start up clearance, AFISOs shall provide start up instructions.

3.5.1.2 When so requested by the pilot prior to engine start, an expected take-off time should be given.

3.5.1.3 Start-up time procedures should be implemented where necessary to avoid congestion and excessive delays on the manoeuvring area or when warranted by air traffic flow management (ATFM) regulations. Start-up time procedures should be contained in local instructions, and should specify the criteria and conditions for determining when and how start-up times shall be calculated and issued to departing flights.

3.5.1.4 When an aircraft is subject to ATFM regulations, it should be advised to start up in accordance with its allocated slot time.

### 3.5.2 Aerodrome and meteorological information

3.5.2.1 Prior to taxiing for take-off, aircraft shall be advised of the following elements of information, in the order listed, with the exception of such elements which it is known the aircraft has already received:

- a) the runway to be used;
- b) the surface wind direction and speed, including significant variations therefrom;
- c) the QNH altimeter setting and, either on a regular basis in accordance with local arrangements or if so requested by the aircraft, the QFE altimeter setting;

*Note.— Regarding the provision of altimeter setting, see paragraph 3.8.3.2.*

- d) the air temperature for the runway to be used, in the case of turbine-engined aircraft;
- e) the visibility representative of the direction of take-off and initial climb, if less than 10 km, or, when applicable, the runway visual range (RVR) value(s) for the runway to be used;
- f) the correct time.

3.5.2.2 Prior to take-off aircraft shall be advised of:

- a) any significant changes in the surface wind direction and speed, the air temperature, and the visibility or RVR value(s) given in accordance with 3.5.2.1;
- b) significant meteorological conditions in the take-off and climb-out area, except when it is known that the information has already been received by the aircraft.

*Note.— Significant meteorological conditions in this context include the occurrence or expected occurrence of cumulonimbus or thunderstorm, moderate or severe turbulence, wind shear, hail, moderate or severe icing, severe squall line, freezing precipitation, severe mountain waves, sandstorm, dust storm, blowing snow, tornado or waterspout in the take-off and climb-out area.*

## 3.6 Information related to the operation of aircraft – arriving traffic

3.6.1 Prior to entering the traffic circuit or commencing its approach to land, an aircraft shall be provided with the following elements of information, in the order listed, with the exception of such elements which it is known the aircraft has already received:

- a) the runway-in-use;

- b) the surface wind direction and speed, including significant variations therefrom;
- c) the QNH altimeter setting and, either on a regular basis in accordance with local arrangements or if so requested by the aircraft, the QFE altimeter setting;
- d) current runway surface conditions, in case of precipitants and other temporary hazards;
- e) changes in the operational status of visual and non-visual aids essential for approach and landing; and
- f) other relevant information.

*Note.— Regarding the provision of altimeter setting, see paragraph 3.8.3.2.*

3.6.2 For arriving IFR traffic that intends to conduct an instrument approach the AFIS unit shall, as early as practicable after an aircraft has established communication with the unit, transmit to the aircraft the following elements of information, in the order listed, with the exception of such elements which it is known the aircraft has already received:

- a) runway-in-use;
- b) meteorological information, as follows:
  - 1) surface wind direction and speed, including significant variations;
  - 2) visibility and, when applicable, RVR;
  - 3) present weather;
  - 4) cloud below 1 500 m (5 000 ft) or below the highest minimum sector altitude, whichever is greater; cumulonimbus; if the sky is obscured, vertical visibility when available;
  - 5) air temperature;
  - 6) dew point temperature, inclusion determined on the basis of a regional air navigation agreement;
  - 7) altimeter setting(s);

*Note 1.— Regarding the provision of altimeter setting, see paragraph 3.8.3.2.*

- 8) any available information on significant meteorological phenomena in the approach area; and
- 9) trend-type landing forecast, when available.

*Note 2.— The meteorological information listed above is identical to that required in ATIS broadcasts for arriving aircraft as specified in ICAO Annex 11, 4.3.7 j) to r), and is to be extracted from local meteorological routine and special reports, in accordance with Chapter 11, 11.4.3.2.2 to 11.4.3.2.3.*

3.6.3 In applying the provisions in 3.6.1 and 3.6.2, it should be recognized that information published by NOTAM or disseminated by other means may not have been received by the aircraft prior to departure or during en route flight.

3.6.4 At the commencement of final approach, the following information shall be transmitted to aircraft:

- a) significant changes in the mean surface wind direction and speed;

*Note.— Significant changes are specified in ICAO Annex 3, Chapter 4. However, if the AFISO possesses wind information in the form of components, the significant changes are*

*— Mean headwind component: 19 km/h (10 kt)*

- *Mean tailwind component: 4 km/h (2 kt)*
- *Mean crosswind component: 9 km/h (5 kt)*

- b) the latest information, if any, on wind shear and/or turbulence in the final approach area;
- c) the current visibility representative of the direction of approach and landing or, when provided, the current runway visual range value(s) and the trend.

3.6.5 During final approach, the following information shall be transmitted without delay:

- a) the sudden occurrence of hazards (e.g. unauthorized traffic on the runway);
- b) significant variations in the current surface wind, expressed in terms of minimum and maximum values;
- c) significant changes in runway surface conditions;
- d) changes in the operational status of required visual or non-visual aids;
- e) changes in observed RVR value(s), in accordance with the reported scale in use, or changes in the visibility representative of the direction of approach and landing.

3.6.6 In addition to the information listed in 3.6.1, before entering the traffic circuit an aircraft should be informed of the current traffic circuits and other traffic when necessary.

3.6.7 *Visual signals*

3.6.7.1 When conditions make it necessary, an AFIS unit may use the signal below to aircraft in the air to indicate that the aerodrome is unsafe.

<b>Light signal</b>	<b>Meaning</b>
Red flashes to aircraft in the air	Aerodrome unsafe, do not land

## **3.7 Coordination between air traffic control (ATC) and AFIS**

### **3.7.1 General**

3.7.1.1 Where necessary, letters of agreement should be developed between the appropriate ATC unit and the AFIS unit for the control of arriving and departing aircraft. The procedures in paragraphs 3.7.2 and 3.7.3 below may be used as a template for the inter unit liaison detailed within such a letter of agreement.

### **3.7.2 Arriving traffic**

3.7.2.1 For arriving IFR traffic the appropriate ATC unit shall provide an estimated time of arrival (ETA) to the AFIS unit. The ETA message shall if possible be provided at least 15 minutes before the ETA. Revisions to the ETA shall be provided when the time difference is 5 minutes or more.

3.7.2.2 When the AFIS unit has received an ETA for an arriving IFR aircraft, it shall provide the ATC unit with information about known traffic which the arriving aircraft should be aware of before transfer of communication to the AFIS unit. The information shall be provided in such a time as being relevant and should be revised as necessary. The ATC unit shall relay the information to the arriving aircraft.

### 3.7.2.3 *AFIS aerodrome below or in close proximity to controlled airspace*

3.7.2.3.1 Where relevant, the AFIS unit should provide the ATC unit with QNH and transition level. The ATC unit shall relay this information to the aircraft.

3.7.2.3.2 Transfer of communications shall be achieved not later than when the aircraft passes the controlled airspace boundary, if no other agreement has been made between the units concerned or in local instructions.

*Note.— See also 3.7.3.3 a).*

3.7.2.3.3 Should the aircraft fail to establish communications with the AFIS unit within 5 minutes after the latest received ETA, the AFIS unit shall inform the ATC unit concerned.

3.7.2.3.4 When the AFIS aerodrome is situated below a TMA, the AFIS unit shall as soon as possible inform the ATC unit about local traffic concerned as follows:

- a) when necessary, inform the ATC unit when the first aircraft in a sequence is in contact with and is seen by the AFIS unit and there is a reasonable assurance that it will land or has landed, depending on what occurs first;
- b) missed approach, if the aircraft will leave the area of responsibility of the AFIS unit or when the missed approach may affect other arriving traffic;
- c) any aircraft on or near the manoeuvring area, or operating in the vicinity of the aerodrome, which may constitute a hazard to an arriving aircraft still under the control of the ATC unit.

3.7.2.3.5 When an ATC unit is providing approach control to arriving aircraft within a terminal area the following applies:

- a) information about an approach with position information shall be given to the AFIS unit in time for the AFIS unit to be able to inform other traffic concerned and to ensure that the runway is free for landing as regards vehicle movements or work on the runway;

*Note.— Suitable distance at which report of an approach will be given is normally established in local instructions.*

- b) if the ATC unit is vectoring aircraft for a straight in approach, the AFIS unit shall be timely informed of this fact;
- c) the AFIS unit shall provide information on relevant local traffic to the ATC unit which shall relay this information to the aircraft concerned.

## 3.7.3 **Departing traffic**

3.7.3.1 AFIS unit shall provide the appropriate ATC unit with:

- a) estimated time of departure (ETD) and any revisions of 5 minutes or more;
- b) when necessary, runway-in-use; and
- c) when requested, actual time of departure (ATD).

3.7.3.2 The ATC unit shall provide the AFIS unit with:



- a) ATC clearance when required as well as actual traffic information about such known traffic that the departing aircraft will need to be informed of before departure, and transponder code;
- b) the AFIS unit shall read-back the ATC clearance received;
- c) the AFIS unit shall relay the ATC clearance provided, traffic information and transponder code to the aircraft before departure and in exactly the form it was received.

3.7.3.3 If no agreement to the contrary, the transfer of communication from the AFIS unit to the ATC unit shall be made as follows:

- a) as soon as safely possible and not more than 2 minutes after departure when the AFIS unit is located below or in close proximity to a terminal control area (TMA) and the aircraft will climb into this TMA;
- b) in other cases, at a time suitable taking into consideration the traffic in the TIZ/TIA;
- c) in all cases, transfer of communication shall be made not later than when the aircraft is estimated to exit the TIZ/TIA.

### 3.7.4 Read-back of clearance

3.7.4.1 When relaying ATC clearances, the AFISO shall ensure that the flight crew reads back the safety-related parts of ATC clearances and instructions which are transmitted by voice. The following items shall always be read back:

- a) ATC route clearances; and
- b) runway-in-use, altimeter settings, SSR codes, level instructions, heading and speed instructions and, whether issued by the ATS unit or contained in automatic terminal information service (ATIS) broadcasts, transition levels.

*Note.— If the level of an aircraft is reported in relation to standard pressure 1 013.2 hPa, the words “FLIGHT LEVEL” precede the level figures. If the level of the aircraft is reported in relation to QNH/QFE, the figures are followed by the word “METRES” or “FEET”, as appropriate.*

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

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

## 3.8 Altimeter setting procedures

### 3.8.1 Expression of vertical position of aircraft

3.8.1.1 For flights in the vicinity of aerodromes and within TIZ/TIA the vertical position of aircraft shall, except as provided for in 3.7.1.2, be expressed in terms of altitudes at or below the transition altitude and in terms of flight levels at or above the transition level. While passing through the transition layer, vertical position shall be expressed in terms of flight levels when climbing and in terms of altitudes when descending.

3.8.1.2 When an aircraft is completing its approach using atmospheric pressure at aerodrome elevation (QFE), the vertical position of the aircraft shall be expressed in terms of height above aerodrome elevation during that portion of its flight for which QFE may be used,

except that it shall be expressed in terms of height above runway threshold elevation:

- a) for instrument runways, if the threshold is 2 m (7 ft) or more below the aerodrome elevation; and
- b) for precision approach runways.

### **3.8.2 Determination of the transition level**

3.8.2.1 The ATS unit responsible for the airspace shall establish the transition level to be used in the vicinity of the aerodrome concerned for the appropriate period of time on the basis of QNH (altimeter subscale setting to obtain elevation when on the ground) reports and forecast mean sea level pressure, if required.

3.8.2.2 The transition level shall be the lowest flight level available for use above the transition altitude established for the aerodrome concerned. Where a common transition altitude has been established for two or more aerodromes which are so closely located as to require coordinated procedures, the appropriate ATS units shall establish a common transition level to be used at any given time in the vicinity of the aerodrome and, when relevant, in the TIZ/TIA concerned.

### **3.8.3 Provision of altimeter setting information**

3.8.3.1 The flight crew shall be provided with the transition level in due time prior to reaching it during descent. This may be accomplished by voice communications, ATIS broadcast or data link.

3.8.3.2 A QNH altimeter setting shall be provided before descent to an altitude below the transition level or before entering the TIZ/TIA, and before taxiing for departing aircraft, except when it is known that the aircraft has already received the information in a directed transmission.

3.8.3.3 A QFE altimeter setting shall be provided to aircraft on request or on a regular basis in accordance with local arrangements; it shall be the QFE for the aerodrome elevation except for:

- a) non-precision approach runways, if the threshold is 2 m (7 ft) or more below the aerodrome elevation; and
- b) precision approach runways;

in which cases the QFE for the relevant runway threshold shall be provided.

3.8.3.4 Altimeter settings provided to aircraft shall be rounded down to the nearest lower whole hectopascal.

## **3.9 *Recording and retention of data for investigative purposes***

3.9.1 Paper flight progress strips shall be retained for a period of at least 30 days. Radio-telecommunications, electronic flight progress, coordination and surveillance data shall be recorded and retained for at least the same period of time.

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# CHAPTER 4 – Aerodrome traffic

## 4.1 *General*

4.1.1 As the view from the flight deck of an aircraft is normally restricted, the AFIS unit shall ensure that information which require the flight crew to employ visual detection, recognition and observation are phrased in a clear, concise and complete manner.

## 4.2 *Traffic on the manoeuvring area*

### 4.2.1 *Taxiing aircraft*

4.2.1.1 On receiving information that an aircraft is about to taxi, the AFIS unit shall determine where the aircraft concerned is parked. Relevant information on local traffic and aerodrome conditions shall be provided to assist the flight crew in selecting taxi routes to avoid collision with other aircraft or objects.

#### 4.2.1.2 *Taxiing on a runway*

4.2.1.2.1 If the AFIS unit is unable to determine that a vacating or crossing aircraft has cleared the runway, the aircraft shall be requested to report when it has vacated the runway. The report shall be made when the entire aircraft is beyond the relevant runway-holding position.

#### 4.2.1.3 *Helicopter taxiing operations*

4.2.1.3.1 Situations which require small aircraft or helicopters to taxi in close proximity to taxiing helicopters should be avoided and consideration should be given to the effect of turbulence from taxiing helicopters on arriving and departing light aircraft.

4.2.1.3.2 A frequency change should not be issued to single-pilot helicopters hovering or air-taxiing. Whenever possible, the relay of control instructions from the ATS unit should be delayed as necessary until the pilot is able to change frequency.

*Note.— Most light helicopters are flown by one pilot and require the constant use of both hands and feet to maintain control during low-altitude/low-level flight. Although flight*

*control friction devices assist the pilot, changing frequency near the ground could result in inadvertent ground contact and consequent loss of control.*

## 4.2.2 Control of ground vehicles and personnel

### 4.2.2.1 Entry to the manoeuvring area

The movement of persons or vehicles including towed aircraft on the manoeuvring area shall be subject to authorization by the AFIS unit. Persons, including drivers of all vehicles, shall be required to obtain authorization from the AFIS unit before entry to the manoeuvring area. Notwithstanding such an authorization, entry to a runway or runway strip or change in the operation authorized shall be subject to a further specific authorization by the AFIS unit.

### 4.2.2.2 Priority on the manoeuvring area

4.1.2.2.1 All vehicles and persons shall give way to aircraft which are landing, taxiing or taking off, except that emergency vehicles proceeding to the assistance of an aircraft in distress shall be afforded priority over all other surface movement traffic. In the latter case, all movement of surface traffic should, to the extent practicable, be halted until it is determined that the progress of the emergency vehicles will not be impeded.

4.2.2.2.2 When an aircraft is landing or taking off, vehicles shall not be permitted to hold closer to the runway-in-use than:

- a) at a taxiway/runway intersection — at a runway-holding position; and
- b) at a location other than a taxiway/runway intersection — at a distance equal to the separation distance of the runway-holding position.

### 4.2.2.3 Communication requirements and visual signals

4.2.2.3.1 At AFIS aerodromes all vehicles employed on the manoeuvring area shall be capable of maintaining two-way radio-communication with the AFIS unit, except when the vehicle is only occasionally used on the manoeuvring area and is:

- a) accompanied by a vehicle with the required communications capability; or
- b) employed in accordance with a pre-arranged plan established with the AFIS unit.

4.2.2.3.2 When communications by a system of visual signals is deemed to be adequate, or in the case of radio-communication failure, the signals given hereunder shall have the meaning indicated therein:

Light signal from AFIS unit	Meaning
Green flashes	Permission to cross landing area or to move onto taxiway
Steady red	Stop
Red flashes	Move off the landing area or taxiway and watch out for aircraft
White flashes	Vacate manoeuvring area in accordance with local instructions

4.2.2.3.3 In emergency conditions or if the signals in 4.1.2.3.2 are not observed, the signal given hereunder shall be used for runways or taxiways equipped with a lighting system and shall have the meaning indicated therein.

Light signal	Meaning
Flashing runway or taxiway lights	Vacate the runway and observe the tower for light signal

4.2.2.3.4 When employed in accordance with a plan prearranged with the AFIS unit, constructional and maintenance personnel should not normally be required to be capable of maintaining two-way radio-communication with the AFIS unit.

### 4.2.3 Use of runway-holding positions

4.2.3.1 Aircraft shall not hold closer to a runway-in-use than at a runway-holding position.

*Note.— Runway-holding position locations in relation to runways are specified in ICAO Annex 14, Volume I, Chapter 5.*

4.2.3.2 Aircraft shall not line up and hold on the approach end of a runway whenever another aircraft is effecting a landing, until the landing aircraft has passed the point of intended holding.

### 4.2.4 Order of priority for arriving and departing aircraft

An aircraft landing or in the final stages of an approach to land shall normally have priority over an aircraft intending to depart from the same or an intersecting runway.

### 4.2.5 Take-off

4.2.5.1 AFISOs shall provide relevant information on local traffic and aerodrome conditions to assist the flight crew to decide when to take-off. Such information shall be updated at AFISO discretion or when requested by the pilot. Pilots shall inform AFISO units of their intentions, e.g. 'holding', 'lining up', 'taking off'. Pilots shall not take off if there are other aircraft on the runway.

4.2.5.2 When an ATC clearance is required prior to take-off, the AFISO shall not issue "runway free" information until the ATC clearance has been transmitted to and acknowledged by the aircraft concerned. The ATC clearance shall be forwarded to the aircraft with the least possible delay after receipt of a request made or prior to such request if practicable.

4.2.5.3 Subject to 4.2.5.2, the "runway free" information shall be transmitted when the aircraft is ready for take-off and at or approaching the departure runway, and the traffic situation permits.

### 4.2.6 Arriving aircraft

4.2.6.1 Pilots shall not land if there are other aircraft on the runway. AFISOs shall provide relevant information on local traffic and aerodrome conditions to assist the flight crew in deciding whether to land or go-around. Such information shall be updated at AFISO

discretion or when requested by the pilot.

4.2.6.2 A landing aircraft shall not normally be informed that the runway is free until the preceding departing aircraft has crossed the end of the runway-in-use, or has started a turn, or until all preceding landing aircraft have vacated the runway-in-use.

4.2.6.3 When necessary or desirable, e.g. due to low visibility conditions, a landing or a taxiing aircraft may be requested to report when a runway has been vacated. The report shall be made when the entire aircraft is beyond the relevant runway-holding position.

#### **4.2.7 Runway incursion or obstructed runway**

4.2.7.1 In the event the AFISO becomes aware of a runway incursion or the imminent occurrence thereof, or the existence of any obstruction on or in close proximity to the runway likely to impair the safety of an aircraft taking off or landing, appropriate action shall be taken to inform the aircraft of the runway incursion or obstruction and its location in relation to the runway.

*Note.— Animals and flocks of birds may constitute an obstruction with regard to runway operations. In addition, an aborted take-off or a go-around executed after touchdown may expose the aeroplane to the risk of overrunning the runway. Moreover, a low altitude missed approach may expose the aeroplane to the risk of a tail strike. Pilots may, therefore, have to exercise their judgement in accordance with ICAO Annex 2, 2.4, concerning the authority of the pilot-in-command of an aircraft.*

4.2.7.2 Pilots and AFISOs shall report any occurrence involving an obstruction on the runway or a runway incursion. The report may be recorded on the ICAO Model Runway Incursion Initial Report Form (See Appendix C).

*Note.— In EU Member States, any occurrence involving an obstruction on the runway or a runway incursion is to be reported to the authority designated by the Member State according to the provisions in article 5 of Directive 2003/42/EC. The report will be made according to national regulations transposing Directive 2003/42/EC.*

### **4.3 Aeronautical ground lights**

#### **4.3.1 Operation**

*Note.— The procedures in this Section apply to all aerodromes, whether or not AFIS or aerodrome control service is provided. In addition, the procedures in 4.3.2.1 apply to all aeronautical ground lights, whether or not they are on or in the vicinity of an aerodrome.*

#### **4.3.2 General**

4.3.2.1 All aeronautical ground lights shall be operated, except as provided in 4.3.2.2 and 4.3.2.3:

- a) continuously during the hours of darkness or during the time the centre of the sun's disc is more than 6 degrees below the horizon, whichever requires the longer period of operation, unless otherwise provided hereafter or otherwise required;
- b) at any other time when their use, based on meteorological conditions, is considered desirable for the safety of air traffic.

4.3.2.2 Lights on and in the vicinity of aerodromes that are not intended for en route navigation purposes may be turned off, subject to further provisions hereafter, if no likelihood of either regular or emergency operation exists, provided that they can be again brought into operation at least one hour before the expected arrival of an aircraft.

4.3.2.3 At aerodromes equipped with lights of variable intensity a table of intensity settings, based on conditions of visibility and ambient light, should be provided for the guidance of AFISOs in effecting adjustment of these lights to suit the prevailing conditions. When so requested by an aircraft, further adjustment of the intensity shall be made whenever possible.

### 4.3.3 Approach lighting

*Note.— Approach lighting includes such lights as simple approach lighting systems, precision approach lighting systems, visual approach slope indicator systems, circling guidance lights, approach light beacons and runway alignment indicators.*

4.3.3.1 In addition to 4.3.2.1 approach lighting shall also be operated:

- a) by day when requested by an approaching aircraft;
- b) when the associated runway lighting is operated.

4.3.3.2 The lights of a visual approach slope indicator system shall be operated during the hours of daylight as well as of darkness and irrespective of the visibility conditions when the associated runway is being used.

### 4.3.4 Runway lighting

*Note.— Runway lighting includes such lights as edge, threshold, centre line, end, touchdown zone and wing bar lights.*

4.3.4.1 Runway lighting shall not be operated if that runway is not in use for landing, take-off or taxiing purposes, unless required for runway inspections or maintenance.

4.3.4.2 If runway lighting is not operated continuously, lighting following a take-off shall be provided as specified below:

- a) at aerodromes where AFIS is provided and where lights are centrally controlled, the lights of one runway shall remain lighted after take-off as long as is considered necessary for the return of the aircraft due to an emergency occurring during or immediately after take-off;
- b) at AFIS aerodromes without centrally controlled lights, the lights of one runway shall remain lighted until such time as would normally be required to reactivate the lights in the likelihood of the departing aircraft returning for an emergency landing, and in any case not less than fifteen minutes after take-off.

*Note.— Where obstacle lighting is operated simultaneously with runway lighting as provided in 4.3.8.1, particular care should be taken to ensure that it is not turned off until no longer required by the aircraft.*

### 4.3.5 Stopway lighting

Stopway lights shall be operated whenever the associated runway lights are operated.



#### **4.3.6 Taxiway lighting**

*Note.— Taxiway lighting includes such lights as edge lights, centre line lights, stop bars and clearance bars.*

Taxiway lights shall be operated whenever the runway lights are operated.

#### **4.3.7 Obstacle lighting**

*Note.— Obstacle lighting includes such lights as obstacle and unserviceability lights and hazard beacons.*

4.3.7.1 Obstacle lighting associated with the approach to or departure from a runway or channel, where the obstacle does not project through the inner horizontal surface, as described in Annex 14, Volume I, Chapter 6, may be turned off and on simultaneously with the runway or channel lights.

4.3.7.2 Unserviceability lights may not be turned off as permitted under 4.3.2.2 while the aerodrome is open.

#### **4.3.8 Monitoring of visual aids**

4.3.8.1 AFISOs shall make use of automatic monitoring facilities, when provided, to ascertain whether the lighting is in good order and functioning according to selection.

4.3.8.2 In the absence of an automatic monitoring system or to supplement such a system, the AFISO shall visually observe such lighting as can be seen from the tower and use information from other sources such as visual inspections or reports from aircraft to maintain awareness of the operational status of the visual aids.

4.3.8.3 On receipt of information indicating a lighting fault, the AFISO shall take such action as is warranted to safeguard any affected aircraft or vehicles, and initiate action to have the fault rectified.

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# CHAPTER 5 – Phraseology and AFIS requirements for communications

## 5.1 *Communication procedures*

5.1.1 The communications procedures shall be in accordance with Volume II of Annex 10 — *Aeronautical Telecommunications*, and pilots, ATS personnel and other ground personnel shall be thoroughly familiar with the radiotelephony procedures contained therein.

## 5.2 *General*

*Note.— Requirements for read-back of clearances and safety-related information are provided in Chapter 3, 3.7.4.*

5.2.1 Most phraseologies contained in Sections 5.3 and 5.4 of this Chapter show the text of a complete message without call signs. They are not intended to be exhaustive, and when circumstances differ, pilots, ATS personnel and other ground personnel will be expected to use plain language, which should be as clear and concise as possible, to the level specified in the ICAO language proficiency requirements contained in Annex 1 — *Personnel Licensing*, in order to avoid possible confusion by those persons using a language other than one of their national languages.

5.2.2 All phraseologies shall be used in conjunction with call signs (aircraft, ground vehicle, AFIS or other) as appropriate. In order that the phraseologies listed should be readily discernible in Sections 5.3 and 5.4, call signs have been omitted. Provisions for the compilation of RTF messages, call signs and procedures are contained in Annex 10, Volume II, Chapter 5.

5.2.2.1 The call sign of the AFIS unit shall be the name of the aerodrome followed by “INFORMATION”.

5.2.3 Sections 5.3 and 5.4 include phrases for use by pilots, AFIS personnel and other ground personnel.

5.2.4 As regards phraseologies for the movement of vehicles on the manoeuvring area, the word “PROCEED” shall be used.

5.2.5 The phraseology in Sections 5.3 and 5.4 does not include phrases and regular radiotelephony procedure words contained in Annex 10, Volume II.

5.2.6 Words in parentheses indicate that specific information, such as a level, a place or a time, etc., must be inserted to complete the phrase, or alternatively that optional phrases may be used. Words in square parentheses indicate optional additional words or information that may be necessary in specific instances.

5.2.7 For aircraft in the heavy wake turbulence category, the word “HEAVY” shall be included in all communications with AFIS.

### 5.3 *Phraseologies regarding the provision of information*

<p>5.3.1 TRAFFIC INFORMATION</p> <p>... to pass traffic information</p> <p>... to acknowledge traffic information</p>	<p>a) TRAFFIC (<i>information</i>);</p> <p>b) NO REPORTED TRAFFIC;</p> <p>*c) LOOKING OUT;</p> <p>*d) TRAFFIC IN SIGHT;</p> <p>*e) NEGATIVE CONTACT [<i>reasons</i>];</p> <p>f) [ADDITIONAL] TRAFFIC (<i>direction</i>) BOUND (<i>type of aircraft</i>) (<i>level</i>) ESTIMATED (<i>or OVER</i>) (<i>significant point</i>) AT (<i>time</i>);</p> <p>g) TRAFFIC IS (<i>classification</i>) UNMANNED FREE BALLOON(S) WAS [<i>or ESTIMATED</i>] OVER (<i>place</i>) AT (<i>time</i>) REPORTED (<i>level(s)</i>) [<i>or LEVEL UNKNOWN</i>] MOVING (<i>direction</i>) (<i>other pertinent information, if any</i>).</p> <p>* Denotes pilot transmission.</p>
<p>5.3.2 METEOROLOGICAL CONDITIONS</p> <p>... for multiple RVR observations</p>	<p>a) [SURFACE] WIND (<i>number</i>) DEGREES (<i>speed</i>) (<i>units</i>);</p> <p>b) WIND AT (<i>level</i>) (<i>number</i>) DEGREES (<i>number</i>) KILOMETRES PER HOUR (<i>or</i> KNOTS);</p> <p><i>Note.— Wind is always expressed by giving the mean direction and speed and any significant variations thereof.</i></p> <p>c) VISIBILITY (<i>distance</i>) (<i>units</i>) [<i>direction</i>];</p> <p>d) RUNWAY VISUAL RANGE (<i>or</i> RVR) [RUNWAY (<i>number</i>)] (<i>distance</i>) (<i>units</i>);</p> <p>e) RUNWAY VISUAL RANGE (<i>or</i> RVR) RUNWAY (<i>number</i>) NOT AVAILABLE (<i>or</i> NOT REPORTED);</p> <p>f) RUNWAY VISUAL RANGE (<i>or</i> RVR)</p>

<p>... in the event that RVR information on any one position is not available this information will be included in the appropriate sequence</p>	<p>[RUNWAY (number)] (first position) (distance) (units), (second position) (distance) (units), (third position) (distance) (units);</p> <p>Note 1.— Multiple RVR observations are always representative of the touchdown zone, midpoint zone and the roll-out/stop end zone, respectively.</p> <p>Note 2.— Where reports for three locations are given, the indication of these locations may be omitted, provided that the reports are passed in the order of touchdown zone, followed by the midpoint zone and ending with the roll-out/stop end zone report.</p> <p>g) RUNWAY VISUAL RANGE (or RVR) [RUNWAY (number)] (first position) (distance) (units), (second position) NOT AVAILABLE, (third position) (distance) (units);</p> <p>h) PRESENT WEATHER (details);</p> <p>i) CLOUD (amount, [(type)] and height of base) (units) (or SKY CLEAR);</p> <p>j) CAVOK;</p> <p>Note.— CAVOK pronounced CAV-O-KAY.</p> <p>k) TEMPERATURE [MINUS] (number) (and/or DEWPOINT [MINUS] (number));</p> <p>l) QNH (number) [(units)];</p> <p>m) QFE (number) [(units)];</p> <p>n) (aircraft type) REPORTED (description) ICING (or TURBULENCE) [IN CLOUD] (area) (time);</p> <p>o) REPORT FLIGHT CONDITIONS.</p>
<p>5.3.3 ADDITIONAL REPORTS</p> <p>... to request a report at a specified place or distance</p> <p>... to report at a specified place or distance</p> <p>... to request a report of present position</p> <p>... to report present position</p> <p>Note.— These transmissions from an AFIS unit are requests and do not constitute an instruction.</p>	<p>a) REPORT PASSING (significant point);</p> <p>b) REPORT (distance) MILES (GNSS or DME) FROM (name of DME station) (or significant point);</p> <p>*c) (distance) MILES (GNSS or DME) FROM (name of DME station) (or significant point);</p> <p>d) REPORT PASSING (three digits) RADIAL (name of VOR) VOR;</p> <p>e) REPORT (GNSS or DME) DISTANCE FROM (significant point) or (name of DME station);</p> <p>f) REPORT POSITION</p> <p>*g) (distance) MILES (GNSS or DME) FROM (name of DME station) (or significant point).</p> <p>* Denotes pilot transmission.</p>

<p>5.3.4 AERODROME INFORMATION</p>	<p>a) <i>[(location)]</i> RUNWAY SURFACE CONDITION RUNWAY <i>(number)</i> <i>(condition)</i>;</p> <p>b) <i>[(location)]</i> RUNWAY SURFACE CONDITION RUNWAY <i>(number)</i> NOT CURRENT;</p> <p>c) LANDING SURFACE <i>(condition)</i>;</p> <p>d) CAUTION CONSTRUCTION WORK <i>(location)</i>;</p> <p>e) CAUTION <i>(specify reasons)</i> RIGHT (or LEFT), (or BOTH SIDES) OF RUNWAY <i>[number]</i>;</p> <p>f) CAUTION WORK IN PROGRESS (or OBSTRUCTION) <i>(position and any necessary advice)</i>;</p> <p>g) RUNWAY REPORT AT <i>(observation time)</i> RUNWAY <i>(number)</i> <i>(type of precipitant)</i> UP TO <i>(depth of deposit)</i> MILLIMETRES. BRAKING ACTION GOOD (or MEDIUM TO GOOD, or MEDIUM, or MEDIUM TO POOR, or POOR or UNRELIABLE) <i>[and/or BRAKING COEFFICIENT (equipment and number)]</i>;</p> <p>h) BRAKING ACTION REPORTED BY <i>(aircraft type)</i> AT <i>(time)</i> GOOD (or MEDIUM, or POOR);</p> <p>i) BRAKING ACTION <i>[(location)]</i> <i>(measuring equipment used)</i>, RUNWAY <i>(number)</i>, TEMPERATURE [MINUS] <i>(number)</i>, WAS <i>(reading)</i> AT <i>(time)</i>;</p> <p>j) RUNWAY (or TAXIWAY) <i>(number)</i> WET [or DAMP, WATER PATCHES, FLOODED <i>(depth)</i>, or SNOW REMOVED <i>(length and width as applicable)</i>, or TREATED, or COVERED WITH PATCHES OF DRY SNOW (or WET SNOW, or COMPACTED SNOW, or SLUSH, or FROZEN SLUSH, or ICE, or ICE UNDERNEATH, or ICE AND SNOW, or SNOWDRIFTS, or FROZEN RUTS AND RIDGES)];</p> <p>k) AFIS OBSERVES <i>(weather information)</i>;</p> <p>l) PILOT REPORTS <i>(weather information)</i>.</p>
<p>5.3.5 OPERATIONAL STATUS OF VISUAL AND NON-VISUAL AIDS</p>	<p>a) <i>(specify visual or non-visual aid)</i> RUNWAY <i>(number)</i> <i>(description of deficiency)</i>;</p> <p>b) <i>(type)</i> LIGHTING <i>(unserviceability)</i>;</p> <p>c) GBAS/SBAS/MLS/ILS CATEGORY <i>(category)</i> <i>(serviceability state)</i>;</p> <p>d) TAXIWAY LIGHTING <i>(description of deficiency)</i>;</p> <p>e) <i>(type of visual approach slope indicator)</i> RUNWAY <i>(number)</i> <i>(description of deficiency)</i>.</p>

## 5.4 Phraseologies for use on and in the vicinity of the aerodrome

5.4.1 IDENTIFICATION OF AIRCRAFT	SHOW LANDING LIGHTS.
5.4.2 ACKNOWLEDGEMENT BY VISUAL MEANS	a) ACKNOWLEDGE BY MOVING AILERONS ( <i>or</i> RUDDER); b) ACKNOWLEDGE BY ROCKING WINGS; c) ACKNOWLEDGE BY FLASHING LANDING LIGHTS
5.4.3 STARTING PROCEDURES ... to request permission to start engines  ... at aerodromes where AFIS can control start up, AFIS replies  ... at aerodromes where AFIS can not control start up, AFIS replies	*a) [ <i>aircraft location</i> ] REQUEST START UP;  *b) [ <i>aircraft location</i> ] REQUEST START UP, INFORMATION ( <i>ATIS identification</i> );  c) START UP APPROVED; d) START UP AT ( <i>time</i> )  e) START UP AT OWN DISCRETION; f) EXPECT DEPARTURE ( <i>time</i> ) START UP AT OWN DISCRETION. g) START UP AT OWN DISCRETION ( <i>local information</i> )  h) EXPECT DEPARTURE ( <i>time</i> ) START UP AT OWN DISCRETION  * Denotes pilot transmission.
5.4.4 PUSHBACK PROCEDURES <i>Note.— When local procedures so prescribe, authorization for pushback should be obtained from the AFIS unit.</i> ... aircraft/AFIS	*a) [ <i>aircraft location</i> ] REQUEST PUSHBACK; b) PUSHBACK AT OWN DISCRETION; c) EXPECT ( <i>number</i> ) MINUTES DELAY DUE ( <i>reason</i> ).  * Denotes pilot transmission.
5.4.5 TAXI ... aircraft/AFIS	*a) READY TO TAXI ( <i>position</i> )  b) [TRAFFIC ( <i>details</i> )] [AERODROME CONDITIONS ( <i>details</i> )] RUNWAY ( <i>number</i> )  *c) WILL TAXI TO HOLDING POINT ( <i>name</i> ) [RUNWAY ( <i>number</i> )] VIA TAXIWAY ( <i>name</i> )  *d) HOLDING  * Denotes pilot transmission.

<p>5.4.6 RELAYING CLEARANCE</p> <p>... AFIS</p> <p>... confirmation or otherwise of the readback of clearance</p>	<p>a) (ATC unit) CLEARS (details of clearance)</p> <p>b) [THAT IS CORRECT] (or NEGATIVE) [I SAY AGAIN] ... (as appropriate);</p>
<p>5.4.7 TAKE-OFF</p>	<p>a) [REPORT READY]</p> <p>*b) READY FOR DEPARTURE</p> <p>c) TRAFFIC (details) [NO REPORTED TRAFFIC RUNWAY (number)]</p> <p>d) (traffic information) [RUNWAY (number) FREE FOR DEPARTURE] [or RUNWAY (number) OCCUPIED (or BLOCKED) BY (aircraft or vehicles or persons)] [REPORT AIRBORNE];</p> <p>*e) HOLDING;</p> <p>*f) WILL LINE UP RUNWAY (number) [VIA BACKTRACK];</p> <p>*g) WILL TAKE OFF RUNWAY (number).</p> <p>* Denotes pilot transmission.</p>
<p>5.4.8 AFTER TAKE-OFF</p> <p>... to request airborne time</p>	<p>a) REPORT AIRBORNE;</p> <p>b) AIRBORNE (time);</p> <p>c) AFTER PASSING (level) (contact instructions);</p>
<p>5.4.9 ENTERING AN AERODROME TRAFFIC CIRCUIT</p> <p>... when ATIS information is available</p>	<p>*a) [aircraft type] (position) (level) FOR LANDING;</p> <p>b) ROGER [(direction of circuit in use)] [RUNWAY (number)] [SURFACE] WIND (direction and speed) (units) [TEMPERATURE [MINUS] (number)] QNH (or QFE) (number) [(units)] [TRAFFIC (detail)];</p> <p>*c) (aircraft type) (position) (level) INFORMATION (ATIS identification) FOR LANDING;</p> <p>d) ROGER (circuit in use) [RUNWAY (number)] QNH (or QFE) (number) [(units)] [TRAFFIC (detail)].</p> <p>* Denotes pilot transmission.</p>
<p>5.4.10 IN THE CIRCUIT</p>	<p>*a) (position in circuit, e.g. (DOWNWIND/FINAL));</p> <p>b) ROGER [RUNWAY (number) FREE] or [TRAFFIC (detail) [additional information if required]].</p> <p>* Denotes pilot transmission.</p>
<p>5.4.11 APPROACH</p>	<p>a) REPORT BASE (or FINAL, or LONG</p>

<p><i>Note.— The report “LONG FINAL” is made when aircraft turn on to final approach at a distance greater than 7 km (4 NM) from touchdown or when an aircraft on a straight-in approach is 15 km (8 NM) from touchdown. In both cases a report “FINAL” is required at 7 km (4 NM) from touchdown.</i></p>	<p>FINAL);</p> <p>*b) BASE [or FINAL, or LONG FINAL];</p> <p>c) TRAFFIC (<i>details</i>);</p> <p>d) NO REPORTED TRAFFIC RUNWAY (<i>number</i>);</p> <p>e) RUNWAY (<i>number</i>) FREE or [RUNWAY (<i>number</i>) OCCUPIED];</p> <p>*f) WILL LAND [RUNWAY (<i>number</i>)];</p> <p>*g) GOING AROUND.</p> <p>* Denotes pilot transmission</p>
<p>5.4.12 INFORMATION TO AIRCRAFT</p> <p>... when pilot requested visual inspection of landing gear</p> <p>... wake turbulence</p> <p>... jet blast on apron or taxiway</p> <p>... propeller-driven aircraft slipstream</p>	<p>a) LANDING GEAR APPEARS DOWN;</p> <p>b) RIGHT (<i>or LEFT, or NOSE</i>) WHEEL APPEARS UP (<i>or DOWN</i>);</p> <p>c) WHEELS APPEAR UP;</p> <p>d) RIGHT (<i>or LEFT, or NOSE</i>) WHEEL DOES NOT APPEAR UP (<i>or DOWN</i>);</p> <p>e) CAUTION WAKE TURBULENCE [FROM ARRIVING (<i>or DEPARTING</i>) (<i>type of aircraft</i>)] [<i>additional information as required</i>];</p> <p>f) CAUTION JET BLAST;</p> <p>g) CAUTION SLIPSTREAM.</p>
<p>5.4.13 RUNWAY VACATING AND COMMUNICATIONS AFTER LANDING</p>	<p>a) TAXIWAY (<i>name</i>) AVAILABLE TO APRON (STAND)</p> <p>b) YOUR STAND (<i>or GATE</i>) (<i>designation</i>);</p>

## 5.5 **Phraseology for vehicles/persons on the manoeuvring area**

<p>5.5.1 VEHICLE TRAFFIC</p> <p>... where detailed instructions are required</p>	<p>*a) [<i>vehicle call sign</i>] [<i>location</i>] REQUEST PROCEED TO [<i>intentions</i>];</p> <p>b) PROCEED TO HOLDING POINT [<i>number</i>] [RUNWAY (<i>number</i>)] [HOLD SHORT OF RUNWAY (<i>number</i>) (<i>or</i>) CROSS RUNWAY (<i>number</i>)];</p> <p>*c) [<i>vehicle call sign</i>] REQUEST DETAILED INSTRUCTIONS;</p> <p>d) PROCEED TO HOLDING POINT [<i>number</i>] [RUNWAY (<i>number</i>)] VIA (<i>specific route to be followed</i>) [HOLD SHORT OF RUNWAY (<i>number</i>) (<i>or</i>) CROSS RUNWAY (<i>number</i>)];</p> <p>e) TAKE (<i>or</i>) TURN FIRST (<i>or</i>) SECOND LEFT (<i>or</i>) RIGHT;</p> <p>f) PROCEED VIA (<i>identification of taxiway</i>);</p>
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<p>... general</p>	<p>g) PROCEED VIA RUNWAY (<i>number</i>);  h) PROCEED TO TERMINAL (<i>or other location, e.g. GENERAL AVIATION AREA</i>);  <i>*i) (vehicle call sign) (location) REQUEST PROCEED TO (destination on aerodrome)</i>;  j) PROCEED STRAIGHT AHEAD;  k) PROCEED WITH CAUTION;  l) GIVE WAY TO (<i>description and position of aircraft or other vehicle</i>);  <i>*m) GIVING WAY TO (traffic)</i>;  <i>*n) TRAFFIC (or type of aircraft) IN SIGHT</i>;  o) FOLLOW (<i>description of other aircraft or vehicle</i>);  p) VACATE RUNWAY (<i>number</i>);  <i>*q) RUNWAY (number) VACATED</i>;  r) EXPEDITE [<i>reason</i>];  <i>*s) EXPEDITING</i>;  t) [CAUTION] proceed SLOWER [<i>reason</i>];  <i>*u) SLOWING DOWN.</i>    * Denotes vehicle driver transmission.</p>
<p>5.5.2 HOLDING - VEHICLES</p> <p>... to hold not closer to a runway than specified</p>	<p>‡a) HOLD (<i>direction</i>) OF (<i>position, runway number, etc.</i>);  ‡b) HOLD POSITION;  ‡c) HOLD (<i>distance</i>) FROM (<i>position</i>);  ‡d) HOLD SHORT OF (<i>position</i>);    <i>*e) HOLDING</i>;    <i>*f) HOLDING SHORT.</i>    ‡ Requires specific acknowledgement from the vehicle driver.    * Denotes vehicle driver transmission. The procedure words ROGER and WILCO are insufficient acknowledgement of the instructions HOLD, HOLD POSITION and HOLD SHORT OF (<i>position</i>). In each case the acknowledgement shall be by the phraseology HOLDING or HOLDING SHORT, as appropriate.</p>
<p>5.5.3 TO CROSS A RUNWAY - VEHICLES</p>	<p><i>*a) REQUEST CROSS RUNWAY (number)</i>;    <i>Note.— If the AFIS unit is unable to see the crossing vehicle/person (e.g. night, low visibility), the instruction should always be</i></p>

<p><i>Note.— The driver will, when requested, report “RUNWAY VACATED” when the vehicle is beyond the relevant runway-holding position.</i></p>	<p><i>accompanied by a request to report when the runway has been vacated.</i></p> <p>b) CROSS RUNWAY (<i>number</i>) [REPORT VACATED];</p> <p>c) EXPEDITE CROSSING RUNWAY (<i>number</i>) TRAFFIC (<i>aircraft type</i>) (<i>distance</i>) KILOMETRES (or MILES) FINAL;</p> <p>d) PROCEED TO HOLDING POINT [<i>number</i>] [RUNWAY (<i>number</i>)] VIA (<i>specific route to be followed</i>), [HOLD SHORT OF RUNWAY (<i>number</i>)] or [CROSS RUNWAY (<i>number</i>)];</p> <p>*e) RUNWAY VACATED.</p> <p>* Denotes driver transmission</p>
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## 5.6 Coordination between ATS units

<p>5.6.1 ESTIMATES AND REVISIONS</p> <p>... sending unit</p> <p>... receiving unit reply (if flight plan details are not available)</p> <p>... receiving unit reply (if flight plan details are available)</p> <p>... sending unit reply</p>	<p>a) ESTIMATE [<i>direction of flight</i>] (<i>aircraft call sign</i>) [SQUAWKING (<i>SSR code</i>)] (<i>type</i>) ESTIMATED (<i>significant point</i>) (<i>time</i>) (<i>level</i>) (or DESCENDING FROM (<i>level</i>) TO (<i>level</i>)) [SPEED (<i>filed TAS</i>)] (<i>route</i>) [REMARKS];</p> <p>b) ESTIMATE (<i>significant point</i>) ON (<i>aircraft call sign</i>);</p> <p>c) NO DETAILS;</p> <p>d) (<i>aircraft type</i>) (<i>destination</i>);</p> <p>e) [SQUAWKING (<i>SSR code</i>)] [ESTIMATED] (<i>significant point</i>) (<i>time</i>) AT (<i>level</i>);</p> <p><i>Note.— In the event that flight plan details are not available the receiving station shall reply to b) NO DETAILS and transmitting station shall pass full estimate as in a).</i></p> <p>f) ESTIMATE UNMANNED FREE BALLOON(S) (<i>identification and classification</i>) ESTIMATED OVER (<i>place</i>) AT (<i>time</i>) REPORTED FLIGHT LEVEL(S) (<i>figure or figures</i>) [or FLIGHT LEVEL UNKNOWN] MOVING (<i>direction</i>) ESTIMATED GROUND SPEED (<i>figure</i>) (<i>other pertinent information, if any</i>);</p> <p>g) REVISION (<i>aircraft call sign</i>) (<i>details as necessary</i>).</p>
<p>5.6.2 CHANGE OF CLEARANCE</p>	<p>a) MAY WE CHANGE CLEARANCE OF (<i>aircraft call sign</i>) TO (<i>details of alteration proposed</i>);</p> <p>b) AGREED TO (<i>alteration of clearance</i>) OF (<i>aircraft call sign</i>);</p> <p>c) UNABLE (<i>aircraft call sign</i>);</p> <p>d) UNABLE (<i>desired route, level, etc.</i>) [FOR</p>

	<i>(aircraft call sign)</i> [DUE <i>(reason)</i> ] <i>(alternative clearance proposed)</i> .
5.6.3 APPROVAL REQUEST	<p>a) APPROVAL REQUEST <i>(aircraft call sign)</i> ESTIMATED DEPARTURE FROM <i>(significant point)</i> AT <i>(time)</i>;</p> <p>b) <i>(aircraft call sign)</i> REQUEST APPROVED [<i>(restriction if any)</i>];</p> <p>c) <i>(aircraft call sign)</i> UNABLE <i>(alternative instructions)</i>.</p>
5.6.4 EXPEDITION OF CLEARANCE	<p>a) EXPEDITE CLEARANCE <i>(aircraft call sign)</i> EXPECTED DEPARTURE FROM <i>(place)</i> AT <i>(time)</i>;</p> <p>b) EXPEDITE CLEARANCE <i>(aircraft call sign)</i> [ESTIMATED] OVER <i>(place)</i> AT <i>(time)</i> REQUESTS <i>(level or route, etc.)</i>.</p>

## 5.7 AFIS requirements for communications

### 5.7.1 Air-ground communication

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

### 5.7.2 Aeronautical fixed service (ground-ground communications)

5.7.2.1 An AFIS unit, in addition to being connected to the flight information centre, the area control centre (ACC) and the approach control unit as applicable, shall have facilities for communications with the associated air traffic services reporting office, when separately established.

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# CHAPTER 6 – Alerting service

## 6.1 *Application*

6.1.1 Alerting service shall be provided:

- a) in so far as practicable, to all aircraft having filed a flight plan or otherwise known to the air traffic services; and
- b) to any aircraft known or believed to be the subject of unlawful interference.

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

6.1.3 In the event of a state of emergency arising to an aircraft while it is in contact with an AFIS unit, such unit shall notify immediately the flight information centre or area control centre responsible which will in turn notify the rescue coordination centre.

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

## 6.2 *Emergency phases*

6.2.1 An aircraft is considered to be in a state of emergency in accordance with the following:

- a) *Uncertainty phase* when:
  - 1) no communication has been received from an aircraft within a period of thirty minutes after the time a communication should have been received, or from the time an unsuccessful attempt to establish communication with such aircraft was first made, whichever is the earlier, or when
  - 2) an aircraft fails to arrive within thirty minutes of the estimated time of arrival last notified to or estimated by air traffic services units, whichever is the later, except when no doubt exists as to the safety of

the aircraft and its occupants.

b) *Alert phase* when:

- 1) following the uncertainty phase, subsequent attempts to establish communication with the aircraft or inquiries to other relevant sources have failed to reveal any news of the aircraft, or when
- 2) an aircraft which fails to land within five minutes of the estimated time of landing and communication has not been re-established with the aircraft, or when
- 3) information has been received which indicates that the operating efficiency of the aircraft has been impaired, but not to the extent that a forced landing is likely, except when evidence exists that would allay apprehension as to the safety of the aircraft and its occupants, or when
- 4) an aircraft is known or believed to be the subject of unlawful interference.

c) *Distress phase* when:

- 1) following the alert phase, further unsuccessful attempts to establish communication with the aircraft and more widespread unsuccessful inquiries point to the probability that the aircraft is in distress, or when
- 2) the fuel on board is considered to be exhausted, or to be insufficient to enable the aircraft to reach safety, or when
- 3) information is received which indicates that the operating efficiency of the aircraft has been impaired to the extent that a forced landing is likely, or when
- 4) information is received or it is reasonably certain that the aircraft is about to make or has made a forced landing, except when there is reasonable certainty that the aircraft and its occupants are not threatened by grave and imminent danger and do not require immediate assistance.

## **6.3 Alerting service provided by AFIS units**

6.3.1 AFIS units are responsible for alerting the rescue and fire fighting services whenever:

- a) an aircraft accident has occurred on or in the vicinity of the aerodrome; or
- b) information is received that the safety of an aircraft which is or will come under the jurisdiction of the AFIS unit may have or has been impaired; or
- c) requested by the flight crew; or
- d) when otherwise deemed necessary or desirable.

6.3.2 Procedures concerning the alerting of the rescue and fire fighting services shall be contained in local instructions. Such instructions shall specify the type of information to be provided to the rescue and fire fighting services, including type of aircraft and type of emergency and, when available, number of persons on board, and any dangerous goods carried on the aircraft.

6.3.3 Aircraft which fail to report after having been transferred to an AFIS unit, or, having once reported, cease radio contact and in either case fail to land five minutes after the expected landing time, shall be reported to the approach control unit, ACC or flight information centre, or to the rescue coordination centre or rescue sub-centre, in accordance with local instructions.

## **6.4      *Use of communication facilities***

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

## **6.5      *Plotting aircraft in a state of emergency***

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

## **6.6      *Information to aircraft operating in the vicinity of an aircraft in a state of emergency***

6.6.1      When it has been established by an AFIS unit that an aircraft is in a state of emergency, other aircraft known to be in the vicinity of the aircraft involved shall, except as provided in 6.6.2, be informed of the nature of the emergency as soon as practicable.

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

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# CHAPTER 7 – Emergency, communication failure and contingencies

## 7.1 *Emergency procedures*

### 7.1.1 **General**

7.1.1.1 The various circumstances surrounding each emergency situation preclude the establishment of exact detailed procedures to be followed. The procedures outlined herein are intended as a general guide to AFIS personnel.

7.1.1.2 When an emergency is declared by an aircraft, the AFIS unit should take appropriate and relevant action as follows:

- a) unless clearly stated by the flight crew or otherwise known, take all necessary steps to ascertain aircraft identification and type, the type of emergency, the intentions of the flight crew as well as the position and level of the aircraft;
- b) decide upon the most appropriate type of assistance which can be rendered;
- c) enlist the aid of any other ATS unit or other services which may be able to provide assistance to the aircraft;
- d) provide the flight crew with any information requested as well as any additional relevant information, such as details on suitable aerodromes, minimum safe altitudes, weather information;
- e) obtain from the operator or the flight crew such of the following information as may be relevant: number of persons on board, amount of fuel remaining, possible presence of hazardous materials and the nature thereof; and
- f) notify the appropriate ATS units and authorities as specified in local instructions.

7.1.1.3 Changes of radio frequency and SSR code should be avoided if possible and should normally be made only when or if an improved service can be provided to the aircraft



concerned. When appropriate, other aircraft operating in the vicinity of the aircraft in emergency should be advised of the circumstances.

*Note.— Requests to the flight crew for the information contained in 7.1.1.2 e) will be made only if the information is not available from the operator or from other sources and will be limited to essential information.*

## **7.1.2 Unlawful interference and aircraft bomb threat**

7.1.2.1 AFIS personnel shall be prepared to recognize any indication of the occurrence of unlawful interference with an aircraft.

7.1.2.2 Whenever unlawful interference with an aircraft is known or suspected or a bomb threat warning has been received, AFIS units shall promptly provide assistance as far as practicable and inform the associated FIC/ACC.

7.1.2.3 The following additional procedures shall apply if a threat is received indicating that a bomb or other explosive device has been placed on board a known aircraft. The AFIS unit receiving the threat information shall:

- a) if in direct communication with the aircraft, advise the flight crew without delay of the threat and the circumstances surrounding the threat; or
- b) if not in direct communication with the aircraft, advise the flight crew by the most expeditious means through other ATS units or other channels.

7.1.2.4 The AFIS unit in communication with the aircraft shall ascertain the intentions of the flight crew and report those intentions to other ATS units which may be concerned with the flight.

7.1.2.5 The aircraft shall be handled in the most expeditious manner while ensuring, to the extent possible, the safety of other aircraft, and that personnel and ground installations are not put at risk.

7.1.2.6 An aircraft on the ground should be advised to remain as far away from other aircraft and installations as possible and, if appropriate, to vacate the runway. The aircraft should be suggested to taxi to a designated or isolated parking area in accordance with local instructions. Should the flight crew disembark passengers and crew immediately, other aircraft, vehicles and personnel should be kept at a safe distance from the threatened aircraft.

7.1.2.7 AFIS units shall not provide any suggestions concerning action to be taken by the flight crew in relation to an explosive device.

7.1.2.8 An aircraft known or believed to be the subject of unlawful interference or which for other reasons needs isolation from normal aerodrome activities shall be suggested a route to the designated isolated parking position. Where such an isolated parking position has not been designated, or if the designated position is not available, the aircraft shall be suggested to proceed to a position within the area or areas selected by prior agreement with the aerodrome authority.

*Note.— See ICAO Annex 14, Volume I, Chapter 3.*

## **7.2 Air-ground communications failure**

7.2.1 When unable to maintain two-way communication with an aircraft operating in a TIZ/TIA the AFIS unit shall inform the associated ATC unit immediately.

7.2.2 As soon as it is known that two-way communication has failed, action shall be taken to ascertain whether the aircraft is able to receive transmissions from the AFIS unit by requesting it to transmit, if possible, a specified signal in order to indicate acknowledgement.

7.2.3 If the aircraft fails to indicate that it is able to receive and acknowledge transmissions, it is assumed that the aircraft will:

- a) if in visual meteorological conditions:
  - 1) continue to fly in visual meteorological conditions;
  - 2) land at the nearest suitable aerodrome; and
  - 3) report its arrival by the most expeditious means to the appropriate ATS unit; or
- b) if in instrument meteorological conditions or when conditions are such that it does not appear likely that the pilot will complete the flight in accordance a):
  - 1) 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 2), hold over this aid or fix until commencement of descent;
  - 2) commence descent from the navigation aid or fix specified in 1) at, or as close as possible to, the expected approach time (EAT) 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;
  - 3) complete a normal instrument approach procedure as specified for the designated navigation aid or fix; and
  - 4) land, if possible, within 30 minutes after the estimated time of arrival specified in 2) or the last acknowledged expected approach time, whichever is later.

7.2.4 As soon as it is known that two-way communication has failed, appropriate information describing the action taken by the AFIS unit shall be transmitted blind for the attention of the aircraft concerned.

7.2.5 Pertinent information shall be given to other aircraft in the vicinity of the presumed position of the aircraft experiencing the failure.

7.2.6 As soon as it is known that an aircraft which is operating in its area of responsibility is experiencing an apparent radio-communication failure, an AFIS unit shall forward information concerning the radio-communication failure to the air traffic services unit concerned.

## **7.3 ATS contingencies**

The various circumstances surrounding each contingency situation preclude the establishment of exact detailed procedures to be followed. The procedures outlined below are intended as a general guide to AFIS personnel.

### **7.3.1 Radio-communications contingencies**

#### **7.3.1.1 General**

ATS contingencies related to communications, i.e. circumstances preventing an AFISO from communicating with aircraft in the area of responsibility, may be caused by either a failure of ground radio equipment, a failure of airborne equipment, or by the frequency being inadvertently blocked by an aircraft transmitter. The duration of such events may be for prolonged periods and appropriate action to ensure that the safety of aircraft is not affected should therefore be taken immediately.

**7.3.1.1** *Ground radio failure*

7.3.1.2.1 In the event of complete failure of the ground radio equipment used for AFIS, the AFIS unit shall:

- a) where aircraft are required to keep a listening watch on the emergency frequency 121.5 MHz, attempt to establish radio communications on that frequency;
- b) without delay inform the adjacent ATS unit, as applicable, of the failure;
- c) appraise such positions or units of the current traffic situation; and
- d) if practicable, request their assistance, in respect of aircraft which may establish communications with those positions or units.

**7.3.1.2** *Blocked frequency*

In the event that the frequency is inadvertently blocked by an aircraft transmitter, the following additional steps should be taken:

- a) attempt to identify the aircraft concerned;
- b) if the aircraft blocking the frequency is identified, attempts should be made to establish communication with that aircraft, e.g. on the emergency frequency 121.5 MHz or on any VHF frequency designated for air-to-air use by flight crews or any other communication means or, if the aircraft is on the ground, by direct contact;
- c) if communication is established with the aircraft concerned, the flight crew shall be instructed to take immediate action to stop inadvertent transmissions on the affected frequency.

**7.3.1.3** *Unauthorized use of AFIS frequency*

7.3.1.4.1 Instances of false and deceptive transmissions on ATS frequencies which may impair the safety of aircraft can occasionally occur. In the event of such occurrences, the AFIS unit concerned should:

- a) correct any false or deceptive information which have been transmitted;
- b) advise all aircraft on the affected frequency that false and deceptive information is being transmitted;
- c) instruct all aircraft on the affected frequency to verify information before taking any action;
- d) if practical, instruct aircraft to change to another frequency; and
- e) if possible, advise all aircraft affected when the false and deceptive information is no longer being transmitted.

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## USE OF ATS SURVEILLANCE SYSTEMS IN THE AERODROME FLIGHT INFORMATION SERVICE

### 1. General

1.1 Some States are using or are planning to use an ATS surveillance system in the provision of AFIS. In order to harmonise the application of such service, the procedures shown below should be applied.

### 2. Functions

2.1 When authorized by and subject to conditions prescribed by the appropriate authority, ATS surveillance systems may be used in the provision of AFIS to perform the following functions:

- a) flight path monitoring of aircraft on final approach;
- b) flight path monitoring of other aircraft in the vicinity of the aerodrome;
- c) providing navigation assistance to VFR flights.

2.2 In prescribing conditions and procedures for the use of ATS surveillance systems in the provision of AFIS, the appropriate authority shall ensure that the availability and use of an ATS surveillance system will not be detrimental to visual observation of aerodrome traffic.

### 3. Provision of ATS surveillance service

*Note.— The procedures described below are only intended as guidance for those appropriate authorities intending to develop procedures for local use of an ATS surveillance service.*

3.1 Before providing an ATS surveillance service to an aircraft, identification shall be established and the pilot informed. Thereafter, identification shall be maintained until termination of the ATS surveillance service.

3.2 If identification is subsequently lost, the pilot shall be informed accordingly.

3.3 Identification shall be established by at least one of the methods specified in 3.4 and 3.5.

3.4 Where ADS-B is used for identification, aircraft may be identified by one or more of the following procedures:

- a) direct recognition of the aircraft identification in an ADS-B label;
- b) transfer of ADS-B identification;
- c) observation of compliance with an instruction to TRANSMIT ADS-B IDENT.

*Note.— In automated systems, the “IDENT” feature may be presented in different ways, e.g. as a flashing of all or part of the position indication and associated label.*

3.5 Where SSR is used for identification, aircraft may be identified by one or more of the following procedures:

- a) recognition of the aircraft identification in a radar label;

*Note.— The use of this procedure requires that the code/call sign correlation is*

*achieved successfully, taking into account the Note following b) below.*

- b) recognition of an assigned discrete code, the setting of which has been verified, in a radar label;

*Note.— The use of this procedure requires a system of code assignment which ensures that each aircraft in a given portion of airspace is assigned a discrete code.*

- c) direct recognition of the aircraft identification of a Mode S-equipped aircraft in a radar label;
- d) by transfer of identification;
- e) observation of compliance with an instruction to set a specific code;
- f) observation of compliance with an instruction to squawk IDENT.

3.6 When a discrete code has been assigned to an aircraft, a check shall be made at the earliest opportunity to ensure that the code set by the pilot is identical to that assigned for the flight. Only after this check has been made shall the discrete code be used as a basis for identification.

3.7 The information presented on a situation display may be used to provide identified aircraft with:

- a) information regarding any aircraft observed to be on a conflicting path with the identified aircraft;
- b) information on the position of significant weather;
- c) information to assist the aircraft in its navigation.

#### **4. Pilot responsibilities**

4.1 The use of an ATS surveillance system in the provision of flight information service does not relieve the pilot-in-command of an aircraft of any responsibilities.

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## AFIS REQUIREMENT FOR INFORMATION

### 1. METEOROLOGICAL INFORMATION

#### 1.1 General

1.1.1 AFIS units shall be supplied with up-to-date information on existing and forecast meteorological conditions as necessary for the performance of their respective functions. The information shall be supplied in such a form as to require a minimum of interpretation on the part of AFIS personnel and with a frequency which satisfies the requirements of the AFIS units concerned.

1.1.2 AFIS units should be supplied with available detailed information on the location, vertical extent, direction and rate of movement of meteorological phenomena in the vicinity of the aerodrome, and particularly in the climb-out and approach areas, which could be hazardous to aircraft operations.

#### 1.2 AFIS units

1.2.1 AFIS units shall be supplied with meteorological information listed in 1.2.1 below for the aerodrome with which they are concerned. Special reports and amendments to forecasts shall be communicated to the AFIS units as soon as they are necessary in accordance with established criteria, without waiting for the next routine report or forecast.

1.2.2 The following meteorological information shall be supplied, as necessary, to an AFIS unit by its associated meteorological office:

- a) local routine and special reports, METAR and SPECI, TAF and trend forecasts and amendments thereto, for the aerodrome concerned;
- b) SIGMET and AIRMET information, wind shear warnings and alerts and aerodrome warnings;
- c) any additional meteorological information agreed upon locally, such as forecasts of surface wind for the determination of possible runway changes.

1.2.3 AFIS units shall be provided with current pressure data for setting altimeters for the aerodrome concerned.

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

1.2.5 AFIS units at aerodromes where runway visual range values are measured by instrumental means shall be equipped with display(s) permitting read-out of the current runway visual range value(s). The display(s) shall be related to the same location(s) of observation and be fed from the same sensor(s) as the corresponding display(s) in the meteorological station, where such a station exists.

1.2.6 AFIS units at aerodromes where the height of cloud base is assessed by instrumental means should be equipped with display(s) permitting read-out of the current value(s) of the height of cloud base. The displays should be related to the same location(s) of observations and be fed from the same sensor(s) as the corresponding display(s) in the meteorological station, where such a station exists.

1.2.7 AFIS units shall be supplied with information on wind shear, when available, which could adversely affect aircraft on the approach or take-off paths or during circling

approach and aircraft on the runway during the landing roll or take-off run.

**2. INFORMATION ON AERODROME CONDITIONS AND THE OPERATIONAL STATUS OF ASSOCIATED FACILITIES**

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

**3. INFORMATION ON THE OPERATIONAL STATUS OF NAVIGATION AIDS**

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

3.2 Information on the operational status, and any changes thereto, of visual and non-visual aids as referred to in 3.1 should be received by the appropriate AFIS unit on a timely basis consistent with the use of the aid(s) involved.

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**ICAO MODEL RUNWAY INCURSION  
INITIAL REPORT FORM**

Report no.: \_\_\_\_\_

A. Date/time of runway incursion (in UTC) Day  Night   
(YYYYMMDDhhmm) \_\_\_\_\_

B. Person submitting the report  
Name: \_\_\_\_\_  
Job title: \_\_\_\_\_  
Telephone no.: \_\_\_\_\_  
Facility/unit: \_\_\_\_\_  
Date/time/place of completion of form: \_\_\_\_\_

C. ICAO aerodrome designator \_\_\_\_\_

D. Surface conditions  
(Braking) \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

E. Aircraft, vehicle or person involved in the runway incursion (indicate all those involved in the occurrence)  
Aircraft 1: \_\_\_\_\_  
Aircraft 2: \_\_\_\_\_  
Aircraft 3: \_\_\_\_\_  
Vehicle: \_\_\_\_\_  
Person: \_\_\_\_\_



F. Weather conditions

Wind: \_\_\_\_\_ Visibility/RVR: \_\_\_\_\_

Temperature (° Celsius): \_\_\_\_\_ Ceiling/cloud: \_\_\_\_\_

Additional information:

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G. Evasive action – Aircraft 1

No

Yes  Select from the list below as appropriate:

Cancelled take-off clearance

Rejected take-off  distance rolled: \_\_\_\_\_

Rotated early

Delayed rotation

Abrupt stop

Swerved

Missed approach  distance to runway threshold: \_\_\_\_\_

Other

H. Evasive action – Aircraft 2

No

Yes  Select from the list below as appropriate:

Cancelled take-off clearance

Rejected take-off  distance rolled: \_\_\_\_\_

Rotated early

Delayed rotation

Abrupt stop

Swerved

Missed approach  distance to runway threshold: \_\_\_\_\_

Other

I. Evasive action – Vehicle

No

Yes  Select from the list below as appropriate:

Abrupt stop

Swerved

Other

J. Closest proximity

Vertical (ft): \_\_\_\_\_ Horizontal (m): \_\_\_\_\_

K. Communication difficulties

No

Yes  Select from the list below as appropriate:

Readback/hearback

Blocked communication

Confused call signs

Aircraft on wrong fq/no radio

Non-standard phraseology

L. ATC

Did ATC forget about:

Yes No

An aircraft/person/vehicle cleared onto or to cross a runway?

An aircraft on approach to land?

A runway closure

M. Description of the incident and relevant circumstances

1. A description or diagram of the geometry of the incident scenario:

Description:

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Diagram:

2. A description of any evasive or corrective action taken to avoid a collision:

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3. An assessment of the available reaction time and the effectiveness of the evasive or corrective action:

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4. An indication of whether a review of voice communication has been completed and the results of that review:

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5. Initial assessment of severity:

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N. Aircraft details – Aircraft 1

Registration no.: \_\_\_\_\_ Call sign: \_\_\_\_\_ SSR code (If applicable): \_\_\_\_\_

Flight no.: \_\_\_\_\_ Owner/operator: \_\_\_\_\_

Aircraft 1 type: \_\_\_\_\_

Flight details (select from the list below as appropriate):

<i>Type of flight</i>		<i>Flight rules</i>	
General aviation	<input type="checkbox"/>	IFR	<input type="checkbox"/>
Military	<input type="checkbox"/>	VFR	<input type="checkbox"/>
Non-scheduled	<input type="checkbox"/>		
Scheduled	<input type="checkbox"/>		
Other	<input type="checkbox"/>		
Not applicable	<input type="checkbox"/>		

O. Aircraft details – Aircraft 2

Registration no.: \_\_\_\_\_ Call sign: \_\_\_\_\_ SSR code (If applicable): \_\_\_\_\_

Flight no.: \_\_\_\_\_ Owner/operator: \_\_\_\_\_

Aircraft 1 type: \_\_\_\_\_

Flight details (select from the list below as appropriate):

<i>Type of flight</i>		<i>Flight rules</i>	
General aviation	<input type="checkbox"/>	IFR	<input type="checkbox"/>
Military	<input type="checkbox"/>	VFR	<input type="checkbox"/>
Non-scheduled	<input type="checkbox"/>		
Scheduled	<input type="checkbox"/>		
Other	<input type="checkbox"/>		
Not applicable	<input type="checkbox"/>		

P. Vehicle details – Vehicle 1

Registration no.: \_\_\_\_\_ Call sign: \_\_\_\_\_

Mobile no.: \_\_\_\_\_ Owner/operator: \_\_\_\_\_

Vehicle 1 type: \_\_\_\_\_

Other details (select from the list below as appropriate):

- | <i>Type of vehicle</i>                     | <i>Other:</i> |
|--|---------------|
| Runway inspection <input type="checkbox"/> |               |
| Bird control                               |               |
| Tugging/towing <input type="checkbox"/>    |               |
| Fire brigade <input type="checkbox"/>      |               |
| Maintenance <input type="checkbox"/>       |               |
| Snow clearing <input type="checkbox"/>     |               |
| Military <input type="checkbox"/>          |               |

Q. Vehicle details – Vehicle 2

Registration no.: \_\_\_\_\_ Call sign: \_\_\_\_\_  
Mobile no.: \_\_\_\_\_ Owner/operator: \_\_\_\_\_  
Vehicle 2 type: \_\_\_\_\_

Other details (select from the list below as appropriate):

- | <i>Type of vehicle</i>                     | <i>Other:</i> |
|--|---------------|
| Runway inspection <input type="checkbox"/> |               |
| Bird control                               |               |
| Tugging/towing <input type="checkbox"/>    |               |
| Fire brigade <input type="checkbox"/>      |               |
| Maintenance <input type="checkbox"/>       |               |
| Snow clearing <input type="checkbox"/>     |               |
| Military <input type="checkbox"/>          |               |

R. Report received by

\_\_\_\_\_ (name of person) \_\_\_\_\_ (date)

S. Date when detailed investigation will commence

\_\_\_\_\_

**2. INSTRUCTIONS FOR COMPLETING THE RUNWAY  
INCURSION INITIAL REPORT FORM**

Item

- A Indicate the date/time (in UTC) and conditions (day or night) of the runway incursion
- B Provide details about the person submitting the report.
- C Provide the aerodrome designator as indicated in *Location Indicators* (Doc 7910)
- D Supply information regarding the runway condition at the time of the runway incursion, which affected the braking action of the aircraft.
- E Identify the aircraft, vehicles or persons involved in the runway incursion. More details should be provided in N, O, P and Q.
- F Provide information on weather conditions such as wind, visibility, RVR, temperature, ceiling, cloud and additional information as required.
- G,H,I Provide information regarding evasive action taken by the aircraft and/or vehicles
- J Provide information regarding the closest proximity or distance, horizontally and/or vertically, between both parties during the runway incursion or at the point at which both parties were aware of the situation and the aircraft was under control at taxi speed or less.
- K,L Provide information regarding communication difficulties and ATC memory lapses.
- M Describe the runway incursion, by providing the information requested. Attach additional pages as required.
- N,O,P,Q Supply detailed information regarding the aircraft and vehicles involved in the runway incursion.
- R Provide the name of the person receiving the report and date.
- S Indicate the date when the detailed investigation of the runway incursion will commence.

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**AIR TRAFFIC INCIDENT REPORT**

1. ICAO model air traffic incident report form
2. Instructions for the completion of the air traffic incident report form.



**1. ICAO model air traffic incident report form**

**AIR TRAFFIC INCIDENT REPORT FORM**

*For use when submitting and receiving reports on air traffic incidents. In an initial report by radio, shaded items should be included.*

**A — AIRCRAFT IDENTIFICATION**

**B — TYPE OF INCIDENT**

AIRPROX / PROCEDURE / FACILITY\*

**C — THE INCIDENT**

**1. General**

a) Date / time of incident \_\_\_\_\_ UTC

b) Position \_\_\_\_\_

**2. Own aircraft**

a) Heading and route \_\_\_\_\_

b) True airspeed \_\_\_\_\_ measured in ( ) kt \_\_\_\_\_ ( ) km/h \_\_\_\_\_

c) Level and altimeter setting \_\_\_\_\_

d) Aircraft climbing or descending

( ) Level flight ( ) Climbing ( ) Descending

e) Aircraft bank angle

( ) Wings level ( ) Slight bank ( ) Moderate bank

( ) Steep bank ( ) Inverted ( ) Unknown

f) Aircraft direction of bank

( ) Left ( ) Right ( ) Unknown

g) Restrictions to visibility (select as many as required)

( ) Sun glare ( ) Windscreen pillar ( ) Dirty windscreen

( ) Other cockpit structure ( ) None

h) Use of aircraft lighting (select as many as required)

( ) Navigation lights ( ) Strobe lights ( ) Cabin lights

( ) Red anti-collision lights ( ) Landing / taxi lights ( ) Logo (tail fin) lights

( ) Other ( ) None

i) Traffic avoidance advice issued by ATS

( ) Yes, based on ATS surveillance system ( ) Yes, based on visual sighting ( ) Yes, based on other information

( ) No

j) Traffic information issued

( ) Yes, based on ATS surveillance system ( ) Yes, based on visual sighting ( ) Yes, based on other information

( ) No

\* Delete as appropriate.

k) Airborne collision avoidance system — ACAS

- |   |   |  |
|---|---|--|
| <input type="checkbox"/> Not carried                | <input type="checkbox"/> Type   | <input type="checkbox"/> Traffic advisory issued |
| <input type="checkbox"/> Resolution advisory issued | <input type="checkbox"/> Traffic advisory or resolution advisory not issued |  |

l) Identification

- |   |   |  |
|---|---|--|
| <input type="checkbox"/> No ATS surveillance system available | <input type="checkbox"/> Identification | <input type="checkbox"/> No identification |
|---|---|--|

m) Other aircraft sighted

- |                              |                             |   |
|------------------------------|-----------------------------|---|
| <input type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> Wrong aircraft sighted |
|------------------------------|-----------------------------|---|

n) Avoiding action taken

- |                              |                             |
|------------------------------|-----------------------------|
| <input type="checkbox"/> Yes | <input type="checkbox"/> No |
|------------------------------|-----------------------------|

o) Type of flight plan IFR / VFR / none\*

**3. Other aircraft**

a) Type and call sign / registration (if known) \_\_\_\_\_

b) If a) above not known, describe below

- |                                     |  |                                    |
|-------------------------------------|--|------------------------------------|
| <input type="checkbox"/> High wing  | <input type="checkbox"/> Mid wing            | <input type="checkbox"/> Low wing  |
| <input type="checkbox"/> Rotorcraft |  |                                    |
| <input type="checkbox"/> 1 engine   | <input type="checkbox"/> 2 engines           | <input type="checkbox"/> 3 engines |
| <input type="checkbox"/> 4 engines  | <input type="checkbox"/> More than 4 engines |                                    |

Marking, colour or other available details

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c) Aircraft climbing or descending

- |                                       |                                   |                                     |
|---------------------------------------|-----------------------------------|-------------------------------------|
| <input type="checkbox"/> Level flight | <input type="checkbox"/> Climbing | <input type="checkbox"/> Descending |
| <input type="checkbox"/> Unknown      |                                   |                                     |

d) Aircraft bank angle

- |                                      |                                      |  |
|--------------------------------------|--------------------------------------|--|
| <input type="checkbox"/> Wings level | <input type="checkbox"/> Slight bank | <input type="checkbox"/> Moderate bank |
| <input type="checkbox"/> Steep bank  | <input type="checkbox"/> Inverted    | <input type="checkbox"/> Unknown       |

e) Aircraft direction of bank

- |                               |                                |                                  |
|-------------------------------|--------------------------------|----------------------------------|
| <input type="checkbox"/> Left | <input type="checkbox"/> Right | <input type="checkbox"/> Unknown |
|-------------------------------|--------------------------------|----------------------------------|

f) Lights displayed

- |  |  |   |
|--|--|---|
| <input type="checkbox"/> Navigation lights         | <input type="checkbox"/> Strobe lights         | <input type="checkbox"/> Cabin lights           |
| <input type="checkbox"/> Red anti-collision lights | <input type="checkbox"/> Landing / taxi lights | <input type="checkbox"/> Logo (tail fin) lights |
| <input type="checkbox"/> Other                     | <input type="checkbox"/> None                  | <input type="checkbox"/> Unknown                |

\* Delete as appropriate.

g) Traffic avoidance advice issued by ATS

- |  |  |  |
|--|--|--|
| <input type="checkbox"/> Yes, based on ATS surveillance system | <input type="checkbox"/> Yes, based on visual sighting | <input type="checkbox"/> Yes, based on other information |
| <input type="checkbox"/> No                                    | <input type="checkbox"/> Unknown                       |  |

h) Traffic information issued

- |  |  |  |
|--|--|--|
| <input type="checkbox"/> Yes, based on ATS surveillance system | <input type="checkbox"/> Yes, based on visual sighting | <input type="checkbox"/> Yes, based on other information |
| <input type="checkbox"/> No                                    | <input type="checkbox"/> Unknown                       |  |

i) Avoiding action taken

- |                              |                             |                                  |
|------------------------------|-----------------------------|----------------------------------|
| <input type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> Unknown |
|------------------------------|-----------------------------|----------------------------------|

**4. Distance**

a) Closest horizontal distance \_\_\_\_\_

b) Closest vertical distance \_\_\_\_\_

**5. Flight meteorological conditions**

a) IMC / VMC\*

b) Above / below\* clouds / fog / haze or between layers\*

c) Distance vertically from cloud \_\_\_\_\_ m / ft\* below \_\_\_\_\_ m / ft\* above

d) In cloud / rain / snow / sleet / fog / haze\*

e) Flying into / out of\* sun

f) Flight visibility \_\_\_\_\_ m / km\*

**6. Any other information considered important by the pilot-in-command**

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**D — MISCELLANEOUS**

**1. Information regarding reporting aircraft**

a) Aircraft registration \_\_\_\_\_

b) Aircraft type \_\_\_\_\_

c) Operator \_\_\_\_\_

d) Aerodrome of departure \_\_\_\_\_

e) Aerodrome of first landing \_\_\_\_\_ Destination \_\_\_\_\_

f) Reported by radio or other means to \_\_\_\_\_ (name of ATS unit) at date/time \_\_\_\_\_ UTC

g) Date / time / place of completion of form \_\_\_\_\_

\* Delete as appropriate.

**2. Function, address and signature of person submitting report**

- a) Function \_\_\_\_\_
- b) Address \_\_\_\_\_
- c) Signature \_\_\_\_\_
- d) Telephone number \_\_\_\_\_

**3. Function and signature of person receiving report**

- a) Function \_\_\_\_\_ b) Signature \_\_\_\_\_

**E — SUPPLEMENTARY INFORMATION BY ATS UNIT CONCERNED**

**1. Receipt of report**

- a) Report received via AFTN / radio / telephone / other (specify)\* \_\_\_\_\_
- b) Report received by \_\_\_\_\_ (name of ATS unit)

**2. Details of ATS action**

Clearance, incident seen (ATS surveillance system/visually, warning given, result of local enquiry, etc.)

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**DIAGRAMS OF AIRPROX**

Mark passage of other aircraft relative to you, in plan on the left and in elevation on the right, assuming YOU are at the centre of each diagram. Include first sighting and passing distance.

\* Delete as appropriate.

## 2. Instructions for the completion of the air traffic incident report form

### *Item*

- A Aircraft identification of the aircraft filing the report.
- B An AIRPROX report should be filed immediately by radio.
- C1 Date/time UTC and position in bearing and distance from a navigation aid or in LAT/LONG.
- C2 Information regarding aircraft filing the report, tick as necessary.
- C2 c) E.g. FL 350/1 013 hPa or 2 500 ft/QNH 1 007 hPa or 1 200 ft/QFE 998 hPa.
- C3 Information regarding the other aircraft involved.
- C4 Passing distance — state units used.
- C6 Attach additional papers as required. The diagrams may be used to show the aircraft's positions.
- D1 f) State name of ATS unit and date/time in UTC.
- D1 g) Date and time in UTC and place of completion of form.
- E2 Include details of ATS unit such as service provided, radiotelephony frequency, SSR codes assigned and altimeter setting. Use diagram to show the aircraft's position and attach additional papers as required.

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## TRAINING AND COMPETENCY

### 1. Competency

1.1 Under the safety management systems all personnel having operational safety related activities has to be properly trained and competent and, if necessary, licensed.

1.2 Aerodrome flight information service should be provided by a certified ATS provider employing appropriately skilled personnel to ensure the provision of services in a safe, efficient, continuous and sustainable manner.

1.3 Initial training for AFIS Officers shall contain a number of disciplines (as provided below) for which a training plan and programme shall be established. The training plan and programme has to be approved by the NSA/Designated Authority. At the end of the initial training programme an examination shall be carried out to confirm the successful completion of the training.

1.4 AFIS personnel shall satisfy applicable medical fitness requirements appropriate to the tasks they undertake. As such, a medical certificate shall be issued by an authorised medical examiner to prove that AFIS personnel are medically fit.

1.5 Following the initial training the person will continue with the training at the AFIS unit (pre-OJT and on-the-job training (OJT)). The training at the unit shall be approved by the NSA/Designated Authority. The OJT part of the unit training will be carried out by the OJT Instructors (OJTI).

1.5.1 Before a certified ATS service provider grants the OJTI qualification to an AFIS Officer the following conditions should be fulfilled:

- successfully completed an appropriate OJTI course;
- has passed any associated examinations/assessment;
- has a minimum 1,5 years experience in the unit and on the operational position;
- is a qualified AFIS officer;
- is medically fit and/or any other similar national requirements.

OJTIs will have to maintain his/her competence undertaking regular appropriate OJTI refresher courses.

1.5.2 After completion of the unit training an examination/assessment shall be carried out to confirm the successful completion of the training. Given that the AFIS Officer is medically fit he/she will be authorised to undertake the tasks of an AFIS Officer.

1.5.3 All examinations/assessments shall be carried out by appropriately qualified persons approved by the certified ATS provider.

1.6 To be able to maintain their competence AFIS Officers shall complete the unit competence scheme which shall contain:

- a mandatory number of hours on the operational position which is commensurate with the traffic at the aerodrome
- periodical refresher training;
- periodical emergency/unusual situations/security training;

- provisions to regain the competence to work as an AFISO after extended periods of absence; and
- medical fitness.

1.7 Age, knowledge, experience and skill required from AFIS personnel should be determined by the NSA/Designated Authority. The following may be used as a general guide:

- a) **Age** – Not less than 18 years of age;
- b) **Knowledge** – Demonstrated knowledge of:
  - rules of the air and air traffic procedures pertinent to aerodrome operations;
  - procedures and practices pertaining to flight information service and alerting service;
  - terms used in the aeronautical mobile service, procedure words and phrases, the spelling alphabet;
  - communication codes and abbreviations used;
  - radio-telephony phraseologies and operating procedures;
  - the general air traffic services and airspace organization within the State;
  - local aerodrome rules;
  - characteristics of local traffic;
  - local terrain and prominent landmarks;
  - local air navigation facilities;
  - procedures for coordination between the AFIS unit and the associated FIC or ACC;
  - pertinent data regarding meteorological reports and effect of significant local weather characteristics; and
  - local procedures for alerting of emergency services.
- c) **Experience** – Satisfactory:
  - completion of an approved training course; and
  - service under a qualified AFISO for not less than an established period of time.
- d) **Skill** – Demonstrated competency in:
  - the manipulation and operation of typical transmit/receiver equipment and controls, including ancillary facilities, and radio direction-finding apparatus in use;
  - the visual inspection and daily operational check of the radio equipment in use;
  - the transmission of telephony messages, including correct microphone technique, enunciation and speech quality; and
  - the reception of telephony messages and the ability to relay messages

correctly.

- e) **Language** – Demonstrate the ability to speak and understand the language used for radiotelephony communications to the level specified in the language proficiency requirements in ICAO Annex 1 – *Personnel Licensing*, Appendix 1.

## 2. Training

### 2.1 Theoretical training

Theoretical training shall cover the following subjects:

- Introduction
- Aviation law
- Air traffic management
- Meteorology
- Navigation
- Aircraft
- Human factors
- Equipment and systems
- Professional environment
- Unusual/degraded/emergency situations
- Aerodromes

*Note.— The structure presented above replicates the subjects covered within the basic and rating training for aerodrome controllers with TWR rating within the Common Core Content Training document. The level of details of the training for AFIS staff will take into consideration the needs and the national regulatory requirements to be applied.*

### 2.2 Practical training

- simulator training
- Unit training
  - Pre-OJT
  - On-the-job training

*Note.— In cases involving the starting up of a new service provision, the OJT would be substituted with equivalent training in accordance with a plan approved by NSA/Designated Authority.*

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## PILOT PROCEDURES ON AFIS AERODROMES

### 1. GENERAL

1.1 A pilot-in-command, prompted by safety concerns, can refuse a runway offered.

1.2 For aircraft in the heavy wake turbulence category, the word “Heavy” shall be included in all communications with AFIS.

1.3 An air traffic incident report shall be submitted, normally to the air traffic services unit concerned, for incidents specifically related to the provision of air traffic services involving such occurrences as aircraft proximity (AIRPROX), or other serious difficulty resulting in a hazard to aircraft, caused by, among others, faulty procedures, non-compliance with procedures, or failure of ground facilities.

### 2. INITIAL CALL TO AFIS

2.1 For aircraft being provided with aerodrome flight information service, the initial call shall contain:

- a) designation of the station being called;
- b) call sign and, for aircraft in the heavy wake turbulence category, the word “Heavy”;  
*Note.— See also paragraph 1.2.*
- c) position;
- d) level;
- e) intention; and
- f) additional elements, as required by the appropriate ATS authority.

### 3. ALTIMETER SETTING PROCEDURES

#### 3.1 *Expression of vertical position of aircraft*

3.1.1 For flights in the vicinity of aerodromes and within TIZ the vertical position of aircraft shall, except as provided for in 3.7.1.2, be expressed in terms of altitudes at or below the transition altitude and in terms of flight levels at or above the transition level. While passing through the transition layer, vertical position shall be expressed in terms of flight levels when climbing and in terms of altitudes when descending.

3.1.2 When an aircraft is completing its approach using atmospheric pressure at aerodrome elevation (QFE), the vertical position of the aircraft shall be expressed in terms of height above aerodrome elevation during that portion of its flight for which QFE may be used, except that it shall be expressed in terms of height above runway threshold elevation:

- a) for instrument runways, if the threshold is 2 m (7 ft) or more below the aerodrome elevation; and
- b) for precision approach runways.

## 4. AERODROME TRAFFIC

### 4.1 *Taxiing aircraft*

#### 4.1.1 *Use of runway-holding positions*

4.1.1.2 Aircraft shall not hold closer to a runway-in-use than at a runway-holding position.

*Note.— Runway-holding position locations in relation to runways are specified in ICAO Annex 14, Volume I, Chapter 5.*

4.1.1.3 Aircraft shall not line up and hold on the approach end of a runway whenever another aircraft is effecting a landing, until the landing aircraft has passed the point of intended holding.

#### 4.1.2 *Uncertainty of position on the manoeuvring area*

4.1.2.1 Except as provided for in 3.4.5.2, a pilot in doubt as to the position of the aircraft with respect to the manoeuvring area shall immediately:

- a) stop the aircraft; and
- b) simultaneously notify the AFIS unit of the circumstances (including the last known position).

4.1.2.2 In those situations where a pilot is in doubt as to the position of the aircraft with respect to the manoeuvring area, but recognizes that the aircraft is on a runway, the pilot shall immediately:

- a) notify the AFIS unit of the circumstances (including the last known position);
- b) if able to locate a nearby suitable taxiway, vacate the runway as expeditiously as possible, unless otherwise informed by the AFIS unit; and then,
- c) stop the aircraft.

### 4.2 *Order of priority for arriving and departing aircraft*

4.2.1 An aircraft landing or in the final stages of an approach to land shall normally have priority over an aircraft intending to depart from the same or an intersecting runway.

4.2.2 When necessary or desirable, e.g. due to low visibility conditions, a landing or a taxiing aircraft may be requested to report when a runway has been vacated. The report shall be made when the entire aircraft is beyond the relevant runway-holding position.

## 5. READ-BACK OF CLEARANCE

5.1 The flight crew shall read back to the AFIS unit safety-related parts of ATC clearances and instructions which are transmitted by voice. The following items shall always be read back:

- a) ATC route clearances; and
- b) runway-in-use, altimeter settings, SSR codes, level instructions, heading and speed instructions and, whether issued by the ATS unit or contained in automatic terminal information service (ATIS) broadcasts, transition levels.

*Note.— If the level of an aircraft is reported in relation to standard pressure 1 013.2 hPa, the words “FLIGHT LEVEL” precede the level figures. If the level of the aircraft is reported in relation to QNH/QFE, the figures are followed by the word “METRES” or “FEET”, as appropriate.*

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

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## SAFETY MANAGEMENT SYSTEMS

### 1. EU Member States

1.1 The provision of air navigation services within the Community shall be subject of certification by the National Supervisory Authority in accordance with the provisions of Commission Regulation (EC) No. 2096/2005 laying down common requirements for the provision of air navigation services.

1.2 Air Navigation Services are defined by the air traffic services, communication, navigation and surveillance services, aeronautical information services and meteorological services. Services mean either an air navigation services or a bundle of air navigation services.

1.3 To receive its certificate for air navigation services an AFIS unit shall comply with the general requirements for the provision of air navigation services and with specific requirements for the provision of air traffic services provided in Annex I and Annex II of Commission Regulation (EC) No. 2096/2005.

1.4 Commission Regulation (EC) No. 2096/2005, Article 4 provides for derogations from compliance with the requirements necessary to obtain a certificate. Article 4(3) provides for the derogations to the providers of aerodrome flight information services who operate regularly not more than one working position at any aerodrome. The derogations refer to requirements under the safety management system as follows:

- safety management responsibility and external services;
- safety surveys;
- safety requirements for risk assessment and mitigation with regard to changes

1.5 In accordance with Regulation (EC) No 550/2004, Article 7(5), Member States can allow the provision of air navigation services without certification in cases where the provider of such services offers them to aircraft movement other than general air traffic, i.e. by military service providers ensuring AFIS at aerodromes. In such cases the State shall inform the Commission and other Member States of their decision and of the measures taken in order to ensure maximum compliance with the Common Requirements.

### 2. Outside EU area, EUROCONTROL Member States and ECAC States not EUROCONTROL Members

2.1 The States not members of the EU and/or States not having an agreement with EC regarding the implementation of the SES legislation within their country have to establish a safety management system within the AFIS units in accordance with the provisions of ESARR 3. AFIS units are usually considered as small organisations (i.e. at least the criteria of limited size in terms of human and financial resources in addition to any other criteria established at national level – there is no link to the traffic density, etc) and as such there is a need for customised SMS to be applied at such locations.

2.2 The implementation of an SMS within a small organisation will need customisation regarding the implementation of some requirements.

2.3 Safety management responsibility within small organisations shall be independent whenever possible due to the difficulties of implementing that principle in small organisations. However, AFIS units have to identify a point of safety management responsibility for the development and maintenance of the SMS, and that point of responsibility has to be accountable directly to the highest organisational level. A combination of responsibilities might exist, and can be seen as acceptable, if additional independent means are arranged to reinforce safety assurance.

2.4 Four safety assurance requirements: 'Safety Surveys', 'Safety Monitoring', 'Safety Records' and 'Risk Assessment and Mitigation Documentation' defines the minimum set of safety assurance arrangements to be established in any safety management system. Safety assurance processes will normally be defined to implement them.

2.5 Safety survey techniques provide for basic safety assurance processes intended to identify deviations, identify hazards, monitor the level of achievement and propose corrective measures. Therefore safety surveys represent a major safety assurance arrangement whose reinforcement may be enough to prevent the lack of independence from the safety managerial function in the case of small organisation. As such, the use of external safety surveys (safety audits, inspections, reviews) conducted by external entities can be considered as an acceptable means of compliance to meet the additional independent means needed to reinforce safety assurance arrangements if:

- a) external safety surveys are conducted by:
  - i) either another ATM service provider whose SMS meets ESARR 3 and does not operate under the special provisions of ESARR 3, 5.2.2 c; or
  - ii) any other external entity appropriately recognised by the ATM safety regulator to perform safety surveys in accordance with ESARR 3<sup>1</sup>;

*Note.– Examples of such external entities may include specialised organisations, professional entities, associations of ATM service-providers, etc.*

- b) external safety surveys are regularly carried out following a programme accepted by the ATM safety regulator; and verify compliance of written arrangements against required arrangements, and actual processes and their results against written arrangements;
- c) external safety surveys are conducted by personnel with appropriate competence, qualifications and knowledge<sup>2</sup>;
- d) external safety surveys are conducted following systematic planning, assessment of all factors affecting safety, identification of corrective actions, record of results, and initiation and follow up of corrective actions;
- e) the highest management level of the organisation operating under the provisions of ESARR 3, 5.2.2 c, formally commits to implement the corrective

<sup>1</sup> Safety regulatory audits and inspections conducted by the ATM Safety Regulator as part of its Safety Oversight regulatory function, can not be considered as an acceptable means of compliance to meet ESARR 3, 5.3.1 'Safety Surveys' or the independent additional means required in ESARR 3, 5.2.2 c

<sup>2</sup> Safety regulators should define qualification criteria for personnel designated to conduct external safety surveys. These criteria should ensure an appropriate level of education, training, experience and competence covering at least:

- a) Knowledge and understanding of safety regulatory requirements, standards and other arrangements applicable;
- b) Assessment techniques of examining, questioning, evaluating and reporting;
- c) Skills required for managing a safety survey such as planning, organising, communicating and directing;
- d) Competence should be demonstrated through evaluations or other acceptable means.

actions derived from external safety surveys.

2.5.1 The arrangements established with an organisation to conduct external safety surveys are formally accepted by the ATM safety regulator on the basis that they ensure that:

- a) the ultimate responsibility for safety in the small organisation remains at its highest management level;
- b) the responsibility for development and maintenance of the SMS remains at the Safety Management point of responsibility identified within the small organisation;
- c) the Safety Management point of responsibility plays a general role in the co-ordination, planning and supervision of external safety surveys without affecting the independence of the survey;
- d) all persons involved with a safety survey respect and support the independence and integrity of those who conduct the survey;
- e) external safety surveys are performed in accordance with procedures defined in the SMS Documentation of the small organisation, previously accepted by the ATM Safety Regulator, and these procedures are, understandable, actionable, auditable and mandatory;
- f) all parties concerned in the arrangements, including the safety regulatory body, can be assured that no conflicts of safety or other interests exists that would prejudice the effective independence of the surveys or their outcome.

2.5.2 Safety oversight actions, including safety regulatory audits and inspections, carried out by the ATM safety regulator, focus special attention on external safety surveys carried out at small organisations operating under the special provisions of ESARR 3, 5.2.2 c.

2.6 Moreover, wherever exist Quality Management Systems (QMS) can support the implementation of SMS. Both regulators and providers should note that there is a potential usage of quality management standards and processes to support the definition, implementation and use of SMS. The implementation of elements from the existing quality standards can be considered as an acceptable approach to meet some specific ESARR 3 requirements.

2.6.1 This option can be particularly useful in the case of small organisations already having a QMS in place.

2.7 It is required that to provide specific documentation of the results of risk assessment and mitigation processes<sup>3</sup>.

2.8 It is common practice to use two types of risk assessment and mitigation documentation:

- documentation associated with a project or programme intended to introduce a new system or change. In that context, risk assessment and mitigation is conducted in parallel to the successive milestones of the project or programme and provides argument about the acceptability of introducing the system into operational service;
- documentation related to operational units to demonstrate the continuous safe

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<sup>3</sup> The risk assessment and mitigation processes required are outlined in ESARR 3 and further developed in ESARR 4.



operation of the ATM services provided by that unit. In addition, this may allow addressing any change not introduced through major projects.

2.8.1 Both types of documents summarise the results of risk assessment and mitigation processes and provide safety assurance. It should be noted that small organisations normally tend to concentrate their activities on conducting ATM operations without undertaking major projects or programmes to introduce new systems and new concepts. In particular new technical equipment tends to be provided by external suppliers on the basis of agreed specifications. In that context, it would be useful to focus the safety assurance documentation of the organisation in just a single document (e.g. operational safety case) associated with the continuous operation of the ATM service.

2.8.2 The development of such single document could be acceptable to meet the Risk Assessment and Mitigation Documentation Requirement, if:

- it collects results obtained from appropriate risk assessment and mitigation processes conducted to ensure that the continuous operation of the unit is safe;
- the SMS deals appropriately with External Services. In particular the SMS processes dealing with external services should focus special attention on inputs received in form of new systems delivered by external entities.

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## **MINIMUM EQUIPMENT LIST**

### **1. ACCOMMODATION AND EQUIPMENT**

1.1 AFIS should preferably be provided from a tower at a location which ensures the best possible view of the aerodrome, the surrounding area and, in particular, the manoeuvring area. As an interim measure, AFIS could also be provided from a room in a comparable location, facing the aerodrome and at least the approach ends of the runway, with large, unobstructed windows.

1.2 The equipment in the AFIS unit should be the same as that required for an aerodrome control tower at an aerodrome with low traffic density.

– END –



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