

## Section 3            Aerodrome Services

### Chapter 1            Aerodrome Control

**Note:** This chapter should be read in conjunction with Separation Methods and Minima (Section 6, Chapter 5).

#### 1            Provision of Services

1.1    An aerodrome control unit shall provide:

- a)    Aerodrome control service;
- b)    Flight Information service;
- c)    Alerting service; and
- d)    Special Events service.

1.2    An aerodrome control unit provides services principally to aircraft flying with visual reference to the surface in an aerodrome traffic zone where one is established, or, in the aerodrome traffic circuit when the aerodrome is situated within a CTR.

1.3    An aerodrome control unit is normally a separate unit but may be combined, either permanently or temporarily, with an approach control unit.

#### 2            Responsibilities

2.1    Aerodrome control shall be responsible for issuing information and instructions to aircraft under its control to achieve a safe, orderly and expeditious flow of air traffic on and in the vicinity of an aerodrome and to assist pilots in preventing collisions between:

- a)    Aircraft flying in, and in the vicinity of, the aerodrome traffic zone;
- b)    Aircraft taking off and landing;
- c)    Aircraft and vehicles, obstructions and other aircraft on the manoeuvring area.

2.2    In order to execute his duties, an aerodrome controller has authority over aircraft, vehicles and personnel on the manoeuvring area.

2.3    The functions of an aerodrome control tower may be performed by different control or working positions, such as:

- a)    Aerodrome controller, normally responsible for operations on the runway and aircraft flying within the area of responsibility of the aerodrome control tower;
- b)    Ground controller, normally responsible for traffic on the manoeuvring area with the exception of runways; and

- c) Clearance delivery position, normally responsible for delivery of start-up and ATC clearances to departing IFR flights.
- 2.4 Where parallel or near-parallel runways are used for simultaneous operations, individual aerodrome controllers should be responsible for operations on each of the runways.
- 2.5 As far as visibility permits, Aerodrome Controllers are required to keep a constant visual watch over the manoeuvring area and the aerodrome circuit, irrespective of whether or not IMC prevails at an aerodrome situated within a CTR, in order to:
- a) Ensure that the runway-in-use and its associated taxiways and flight strips are free of obstructions, vehicles, persons and animals when required for aircraft movements;
  - b) Ensure that, where birds or animals are observed on or near runways, the appropriate airport authorities are informed to remove them and pilots warned of their presence;
  - c) Ensure that all obstructions or unserviceable areas are properly marked and pilots warned when necessary;
  - d) Be constantly aware of the positions of aircraft on the manoeuvring area and in the aerodrome traffic circuit so as to enable him to issue essential aerodrome traffic information;
- Note:** *When Approach Control is responsible for the runway-in-use, Aerodrome controllers shall maintain strict liaison with this unit in regard to the above.*
- e) Alert the aerodrome safety services without delay in the event of an accident, aborted take-off or potential accident on the manoeuvring area or its environs.

## 2.6 Aerodromes Situated Within a CTR

- 2.6.1 During VMC conditions, aerodrome control will be responsible for the provision of aerodrome control services to aircraft on the manoeuvring area including the runway-in-use, excluding the apron, and for aircraft flying within the aerodrome circuit; and
- 2.6.2 During IMC conditions, aerodrome control will be responsible for aircraft on the manoeuvring area, excluding the aprons and runway-in-use, except when such responsibility has been delegated by approach control or as laid down in the ATSU SSI Manual.
- 2.6.3 When IMC prevails at an aerodrome situated within a control zone, the aerodrome control unit will be responsible only for items contained in paragraph 2.4 (b), (d) and (e) above, except that such responsibility does not include the runway-in-use unless such responsibility has been delegated by approach control or as stated in the ATSU SSI Manual.

## 2.7 Selection of Runway-in-use

- 2.7.1 The term 'runway-in-use' is used to indicate the particular runway or landing direction selected by aerodrome control as the most suitable at any particular time. Normally, the runway-in-use selected should be that most closely aligned to the surface wind direction. Where the surface wind conditions are light and variable the 2000 feet wind should be taken into account before selecting the runway-in-use.

2.7.2 When selecting the runway-in-use, aerodrome control shall take into consideration other factors such as:

- a) Type of aircraft which will be using the aerodrome;
- b) Length of runway;
- c) Traffic patterns, especially where these will conflict with other aerodromes;
- d) Pilot's visibility as affected by the rays of the sun or weather;
- e) Prevailing weather;
- f) Approach and landing aids available;
- g) Noise-abatement procedures where these have been prescribed;
- h) Serviceability of taxiways serving the runway-in-use;
- i) Crosswind component.

**Note:** *At certain aerodromes more than one runway may be in use at any one time.*

Note: Refer to Section 1 Chapter 4 for crosswind component table

2.7.3 If the runway-in-use is not considered suitable for a particular operation the pilot may request permission to use another. Permission may be deferred until the traffic situation permits the use of another runway and the expected delay shall be passed to the pilot.

## 2.8 Alerting Service Provided by Aerodrome Control Towers

2.8.1 Aerodrome control towers 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 aerodrome control tower may have or has been impaired; or
- c) Requested by the flight crew; or
- d) When otherwise deemed necessary or desirable.

2.8.2 Procedures concerning the alerting of the rescue and fire fighting services shall be contained in the Station Standing Instruction Manual. 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.

2.8.3 Aircraft which fail to report after having been transferred to an aerodrome control tower, 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 in accordance with Station Standing Instructions.

## 2.9 Failure or irregularity of aids and equipment

2.9.1 Aerodrome control towers shall immediately report in accordance with Station Standing Instructions any failure or irregularity of operation in any equipment, light or other device established at an aerodrome for the guidance of aerodrome traffic and flight crews or required for the provision of air traffic control service.

## 2.10 Co-ordination

2.10.1 Aerodrome control shall co-ordinate with approach control:

- a) Departing IFR flights;
- b) Arriving aircraft which make their first call on the tower frequency (unless they are transferred to approach control).

2.10.2 Approach control will co-ordinate with aerodrome control:

- a) Aircraft approaching to land; if necessary requesting landing clearance;
- b) Arriving aircraft which are to be cleared to visual holding points;
- c) Aircraft routing through the traffic circuit.

2.10.3 Aerodrome control shall co-ordinate with adjacent aerodromes to ensure that the traffic circuits do not conflict.

## 3 Effect of Weather on Operations

### 3.1 Suspension of visual flight rule operations

3.1.1 In deciding whether compliance with IFR is required, Aerodrome Control shall take into account the official weather observations.

3.1.2 An ATZ or CTR will be declared IMC when the ceiling drops below 1,500 feet and / or the visibility reduces below 5 km.

3.1.3 Approach Control shall declare a CTR IMC when any portion of the zone is IMC even though VMC may prevail at one or more of the aerodromes within the zone.

3.1.4 Approach Control shall be responsible for informing the aerodromes within the CTR and arranging liaison with them. This task may be delegated to the aerodrome controller and specified in the ATSU SSI Manual.

- 3.1.5 The following procedures shall be observed by the aerodrome control tower whenever VFR operations are suspended:
- a) Hold all VFR departures;
  - b) Recall all local flights operating under VFR or obtain approval for special VFR operations;
  - c) Notify the approach control unit or ACC as appropriate of the action taken;
  - d) Notify all operators, or their designated representatives, of the reason for taking such action, if necessary or requested.
- 3.1.5 All aircraft not being able to comply with IFR are to be informed that IFR is in force at their destination aerodrome.
- 3.1.6 Pilots should be discouraged from undertaking flights to aerodromes which are IMC unless a suitable alternate is available which will enable the flight to be completed in VMC.
- 3.1.7 Aerodrome control shall inform approach control promptly if IMC prevails at the aerodrome at the time of opening for the day, irrespective of whether IMC or VMC prevailed at the time of closing the previous day.
- 3.1.8 Should an aerodrome be IMC at the time of closing for the day, a new message, either IMC or VMC, must be sent as soon as possible after opening the following day.

### 3.2 Resumption of Visual Flight Rule Operations

- 3.2.1 When the weather conditions have improved to the stage that compliance with IFR is no longer a requirement, aerodrome control shall inform Approach Control or the ACC.
- 3.2.2 The fitness state at an aerodrome should not be upgraded from IMC to VMC unless there is likely to be a lasting improvement in the weather conditions.

### 3.3 Essential Information on Aerodrome Conditions

- 3.3.1 Essential aerodrome information is that concerning the state of the manoeuvring area and its associated facilities which may constitute a hazard to a particular aircraft. It shall be issued to pilots in sufficient time to ensure the safe operation of aircraft. This may include the provision of urgent information to pilots during aircraft take-off and landing runs.
- 3.3.2 Essential information on aerodrome conditions shall include information relating to the following:-
- a) Construction or maintenance work on or immediately adjacent to the manoeuvring area;
  - b) Rough portions of any part of the manoeuvring area, whether marked or not, e.g. broken parts of the surface of the runway and taxiways;
  - c) The presence of snow, slush, ice or water on the runways and taxiways, including their effect on braking action (See Section 2, paragraph 3.4);
  - d) Parked aircraft or other objects on or immediately adjacent to taxiways;

- e) The presence of other temporary hazards, such as birds on the ground or in the air;
- f) Failure or irregular operation of part or all of the aerodrome lighting system, including the approach, threshold, runway, taxiway, obstruction and manoeuvring area unservicability lights;
- g) Any other pertinent information.

**Note:** *Up-to date information on the conditions on aprons may not always be available to the aerodrome control tower. The responsibility of the TWR in relation to aprons is limited to the transmission to the aircraft of the information, which is provided to it by the authority responsible for the aprons.*

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

**Note:** *The term "Other sources" includes NOTAM, ATIS broadcasts and the display of suitable signals or messages.*

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

#### 3.4 **Braking Action Characteristics of Wet Paved Surfaces.**

3.4.1 There is an operational requirement to establish friction characteristic information on paved runways which may become slippery when wet causing significant deterioration of both aircraft braking performance and directional control. To ensure that this information is readily available for flight deck crews, there is a requirement to measure periodically the depth of standing water on paved runway surfaces which may affect the braking action of aircraft.

3.4.2 Under certain conditions wet runways may display friction levels worse than those defined by the SACAA. These conditions are known to occur at certain locations when the initial rainfall on a runway, following a prolonged dry spell, results in a very slippery condition which is unrepresentative of the overall wet friction characteristics of the runway. This situation is a temporary one which remedies itself as further rainfall washes the runway's surface.

**Note:** *This may be caused by the emulsification of dirt and other deposits which are precipitated onto the runway. In humid climates microscopic fungoid growths are believed to be responsible.*

3.4.3 To be able to report with some accuracy on the conditions of the runway the following terms and associated descriptions should be used:

- a) - Damp                      The surface shows a change of colour due to moisture.
- b) - Wet                        The surface is soaked but there is no standing water.
- c) - Water patches        Significant patches of standing water are visible.
- d) - Flooded                Extensive standing water is visible.

3.4.4 The aerodrome controller shall on receipt of this information transmit to any aircraft attempting to land or take-off in order for the flight crew to determine as to whether the conditions permit a safe operation.

### 3.5 Runway Visual Range (RVR)

#### 3.5.1 Observing Techniques

3.5.1.1 There are two observing techniques currently recognised. In this context, “observing” implies instrumented measurements or visual observations of physical parameters i.e. transmittance, number of runway edge lights etc. on which an assessment of RVR can be based. The following are the two recognised techniques:

a) Instrumented Technique

In this case the use of a transmissometer to measure the transmittance of the atmosphere or a forward-scatter meter to measure the atmospheric extinction coefficient which is then displayed in the tower giving digital read-outs of RVR in meters.

**Note:** *The instrumented technique shall comply with the requirements of observing and reporting as specified in Annex 3 and ICAO Manual of Runway Visual Range Observing and Reporting Practices (Doc 9328).*

b) Human Observer Technique

An observer counts the number of runway lights visible from an observing position near the runway. This number is converted to runway visual range, making due allowances for the differences in light intensity, background etc.

**Note:** *Observations using the Human Observer technique shall be made out in paragraph 3.5.2 to 3.5.17.*

3.5.2 All weather operations require the provision of RVR. The instrumented technique is the preferred method for CAT I operations, however the human observer technique is acceptable. For CAT II and III operations the instrumented technique is mandatory. The instrumented technique is the preferred method for low visibility take-offs, however the human observer technique is acceptable in conditions better than 150m RVR.

3.5.3 RVR will only be measured at controlled aerodromes and only on instrument runways with electric runway lighting and shall be measured for each runway that is used. RVR must be measured continuously at all operationally significant times while the official Met visibility is reported as less than 1500m.

**Note:** During operationally significant times the RVR must be measured even though RVR readings in excess of 1500m are obtained as long as the official Met visibility is less than 1500m.

3.5.4 For the purpose of the RVR procedures, operationally significant times shall be interpreted as:

- a) i.r.o. arriving aircraft, from 10 minutes before ETA, or earlier on request, until the aircraft has landed or diverted; and
- b) i.r.o. departing aircraft; from 10 minutes before ETD, or earlier on request, until 10 minutes after take-off; however, if there is a probability of the aircraft returning to the point of departure, RVR will be measured until the aircraft has landed or the probability of return no longer exists.

**Note:** In order to effect flexibility, each ATSU shall publish in its SSI Manual the times and positions on the runways from which sightings must be made.

3.5.5 The Met Office shall inform ATC when the visibility falls below 1500m. Should this report from Met be received during a significant operational time ATC shall request Met to measure the RVR.

3.5.6 ATC shall inform Met of the first RVR measurement of the day so that the information can be included in the Met reports. Thereafter Met shall inform ATC when they require further RVR measurements for inclusion in Met reports.

**Note:** RVR values up to 400m shall be reported in increments of 25m, values between 400m and 800m in increments of 50m, and values between above 800m and 2000m in increments of 100m. RVR values between 1500m and 2000m shall only be reported if the visibility is less than 1500m.

3.5.7 ATC must inform Met when RVR observation is to be discontinued because aircraft operations have reached a stage which is no longer operationally significant.

3.5.8 Any human observer performing RVR observations shall have received training for the task and must be given experience in performing the task in VMC conditions. Such personnel shall be certified and the records kept.

3.5.9 Vehicles used for RVR observations shall maintain two-way radio communication with the Aerodrome Control Tower throughout the period of the observations and shall be driven by someone that is qualified by the Aerodrome LVO requirements to do so under LVO.

3.5.10 Human Observers should meet required vision standard and be subject to periodic vision checks.

3.5.11 Where continuous observations are required a observation position that complies with the obstacle clearance criteria should be specified from where observations are made while the runway is in use.

3.5.12 Observations made with the Human Observation Technique should be made as close as practicable from a height of approximately 5m above the ground.

- 3.5.13 The procedure to be followed by the person taking the RVR observations will be:
- a) Enter the runway at the upwind end and proceed down the length of the runway in the opposite direction to the intended landing or take-off direction ensuring that the runway is clear of obstructions, vehicles and work-parties. Any obstructions observed to be reported to TWR on R/T immediately.
  - b) On reaching the threshold, inform the TWR and take up position at the centre-line of the runway and approximately 300 metres in from the threshold if possible.
  - c) Looking down the runway ask the TWR to vary the light intensity so that the runway lights can be seen as individual light sources without glare.
  - d) Count the number of lights visible on one side of the runway and pass this number to the TWR on the R/T.
  - e) Remain in that position looking down the runway and inform the TWR of any change in the visibility equal to one light less or one light more visible.
  - f) The Aerodrome controller must ensure that when a departing aircraft starts taxiing out for take-off and when an arriving aircraft reports turning final approach the vehicle is moved off the runway for a distance of at least 150 metres. TWR must be informed as soon as the vehicle is clear of the runway. Care must be taken to ensure that the vehicle does not obstruct a taxiway which aircraft will be using.
  - g) The Aerodrome controller will inform the RVR observer when he may re-enter the runway to resume observations.
  - h) The Aerodrome controller will inform the RVR observer when RVR observations are to be discontinued.
- 3.5.14 It is the Aerodrome controller's responsibility to make the conversion from the number of lights visible to RVR in metres. The RVR is obtained by multiplying the number of runway lights visible by the spacing between the lights. A table indicating the exact distance of each light from the threshold shall be published in the unit SSI for quick reference.
- 3.5.15 The RVR must be included in all weather reports while the visibility is below 1500m and passed to arriving aircraft and to aircraft starting up or taxiing out. Any later changes to the RVR must be passed to such aircraft as soon as they are observed.
- 3.5.16 The runway lights should be left on the same intensity for aircraft operations as that used for the measuring of the RVR, unless a pilot request for it to be changed.
- 3.5.17 Should radio communication with the observer be lost, the runway lights should be switched off and on again and stepped up to the original intensity to indicate to the observers to vacate the runway and to contact the Tower immediately. The runway may not be used until it is established that the observers are clear of the runway.

### 3.6 Low Visibility Operations (LVO)

#### 3.6.1 General

Low Visibility Operations has two main objectives which are to protect the ILS signals from interference and to protect aircraft and vehicle traffic from collision.

LVO are required not only for CAT II/III operations but for all aerodromes where operations, including departures, take place under reduced visibility.

The nature and complexity of all operations at an airport requires that all agencies at the airport are involved in LVO.

#### 3.6.2 Surface Movement Guidance Control System (SMGCS)

3.6.2.1 The day-to-day ATC operations on the movement area requires the operation of an SMGCS to provide guidance and control to all aircraft, vehicles and personnel to prevent collisions and support a safe, expeditious and efficient flow of traffic on the aerodrome.

**Note:** *Guidance refers to the facilities, information, advice and visual and non-visual aids used. Control refers to the regulation, procedures and measures used. SMGCS will vary from simple systems at a quiet VFR aerodrome to complex systems at large busy aerodromes.*

3.6.2.2 LVO should form part of this broader strategy and tactical operations of the SMGCS, however the complexity of operations in low visibility requires specific procedures and an adaptation of existing procedures may not be adequate.

3.6.2.3 For the purpose of designing a SMGCS the following visibility conditions are defined by ICAO and shall be used for determining LVP:

Visibility Conditions	
<b>Visibility Condition 1</b>	- Visibility is sufficient for the pilot to taxi and to avoid collision with other traffic on taxiways and at intersections by visual reference, and for ATMSD personnel of control units to exercise control over all traffic on the basis of visual surveillance.
<b>Visibility Condition 2</b>	- Visibility sufficient for the pilot to taxi and to avoid collision with other traffic on taxiways and at all intersections by visual reference, but insufficient for ATMSD personnel of control units to exercise control over all the traffic on the basis of visual surveillance.
<b>Visibility Condition 3</b>	- Visibility less than 400m RVR (Low Visibility Operations)

a) Division of responsibility between controller and pilot. Prevention of collision is a joint pilot/ATS responsibility with the controller always responsible for the resolution of intersection conflicts. In the lower visibilities, the over-all responsibility for the avoidance of collision becomes increasingly that of the ATSU.

- b) As visual surveillance of the aerodrome is progressively lost the workload of ATC and pilots will increase while the traffic demand may not reduce. ATC becomes more and more reliant on RTF to obtain information that can no longer be acquired visually. It may become necessary to restrict vehicle movements while under “Visibility Condition 2”.
- c) Under “Visibility Condition 3” neither ATC nor flight deck crew can provide separation based on visual observation and complete reliance for separation falls on the operation of the SMGCS. Specific techniques for longitudinal spacing should be used. The traffic capacity will depend on the SMGCS components and segments.

### 3.6.3 Control of aerodrome surface traffic in conditions of low visibility

**Note:** *These procedures apply whenever conditions are such that all or part of the manoeuvring area cannot be visually monitored from the control tower. Additional requirements which apply when category II/III approaches are being conducted are specified in paragraph 3.6.4.*

3.6.3.1 When there is a requirement for traffic to operate on the manoeuvring area in conditions of visibility which prevent the aerodrome control tower from applying visual separation between aircraft, and between aircraft and vehicles, the following shall apply:

- a) Restrict vehicle movements in conditions of low visibility:
  - i) Recall of non-essential vehicles from the manoeuvring area;
  - ii) Two-way radio communication shall be maintained with all parties allowed onto the manoeuvring area;
  - iii) The aerodrome control tower shall, prior to a period of application of low visibility procedures, establish a record of vehicles and persons currently on the manoeuvring area and maintain this record during the period of application of these procedures to assist in assuring the safety of operations on that area.
- b) At the intersection of taxiways, an aircraft or vehicle on a taxiway shall not be permitted to hold closer to the other taxiway than the holding position limit defined by a clearance bar, stop bar or taxiway intersection marking according to the specifications in Annex 14, Volume I, Chapter 5.
- c) The longitudinal separation on taxiways shall be as specified for each particular aerodrome by the appropriate ATS authority. This separation shall take into account the characteristics of the aids available for surveillance and control of ground traffic, the complexity of the aerodrome layout and the characteristics of the aircraft using the aerodrome.

**Note:** *The Manual of Surface Movement Guidance and Control Systems (SMGCS) (Doc 9476) provides guidance on surface movement guidance and control components and procedures for low visibility operations.*

- d) Protection of the ILS signals which includes:
  - i) Localiser Critical Area (LCA) when minima is below 800ft cloud base or 3000m visibility;
  - ii) Localiser Sensitive Area (LSA) when minima is below 200ft cloud base or 600m RVR;
  - iii) Departing traffic must have overflown the localiser before arriving traffic has descended below 200ft;
  - iv) Arriving traffic must be clear of the LSA before arriving traffic has descended below 200ft;
  - v) Protection of LSA until departing traffic has crossed the localiser;
  - vi) During simulated low-minima operations the above requirements should be adhered to as far as reasonably possible. For any of the above requirements that cannot be complied with, the controller shall advise the flight deck crew accordingly.
- e) Special emergency procedures to be applied under LVO;
- f) Procedures for the use of "Stop Bar" lights;
- g) Simplification of taxi routes to be used in LVO that is published as a standard;
- h) Notification of operators, agencies and relevant ATSUs, including operators on the airport that have their own access to aprons;
- i) Observing and the reporting of RVR according to Doc 9328.

#### 3.6.4 Procedures for control of aerodrome traffic when category II/III approaches are in use

3.6.4.1 The ANSP shall establish provisions applicable to the start and continuation of precision approach category II/III operations as well as departure operations in RVR conditions less than a value of 550 m.

3.6.4.2 Low visibility operations shall be initiated by or through the aerodrome control tower.

3.6.4.3 The aerodrome control tower shall inform the approach control unit concerned when procedures for precision approach category II/III and low visibility operations will be applied and also when such procedures are no longer in force.

3.6.4.4 Provisions regarding low visibility operations should specify:

- a) The RVR value(s) at which the low visibility operations procedures shall be implemented;
- b) The minimum ILS equipment requirements for category II/III operations;

- c) Other facilities and aids required for category II/III operations, including aeronautical ground lights, which shall be monitored for normal operation;
- d) The criteria for and the circumstances under which downgrading of the ILS equipment from category II/III operations capability shall be made;
- e) The requirement to report any relevant equipment failure and degradation, without delay, to the flight crews concerned, the approach control unit, and any other appropriate organization;
- f) Special procedures for the control of traffic on the manoeuvring area, including;
  - I) The runway-holding positions to be used;
  - II) The minimum distance between an arriving and a departing aircraft to ensure protection of the sensitive and critical areas;
  - III) Procedures to verify that aircraft and vehicles have vacated the runway;
  - IV) Procedures applicable to the separation of aircraft and vehicles;
- g) Applicable spacing between successive approaching aircraft;
- h) Action(s) to be taken in the event low visibility operations need to be discontinued, e.g. due to equipment failures; and
- i) Any other relevant procedures or requirements.

**Note:** Further information regarding the requirements for low visibility operations can be found in the Air Traffic Services Planning Manual (Doc 9426) and the All Weather Operations Manual (Doc 9365).

## **4 Control of Surface Traffic**

### **4.1 Control of Other Than Aircraft Traffic**

#### **4.1.1 Entry to The Manoeuvring Area**

The movement of pedestrians or vehicles on the manoeuvring area shall be subject to authorization by the aerodrome control tower. Persons, including drivers of all vehicles, shall be required to obtain authorization from the aerodrome control tower 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 aerodrome control tower.

#### 4.1.2 Priority on The Manoeuvring Area

4.1.2.1 All vehicles and pedestrians 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.

4.1.2.2 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.

#### 4.1.3 Communication Requirements

At controlled aerodromes all vehicles employed on the manoeuvring area shall be capable of maintaining two-way radio communication with the aerodrome control tower, 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 aerodrome control tower.

**Note:** *When employed in accordance with a plan pre-arranged with the aerodrome control tower, construction and maintenance personnel should not normally be required to be capable of maintaining two-way radio communication with the aerodrome control tower.*

#### 4.1.4 Crossing Runways

4.1.4.1 If the instructions given to surface traffic involve crossing a runway in use, clearance to cross should normally be withheld until no conflict exists. However, to achieve greater efficiency of operation clearance to cross may be given subject to aircraft which are landing or taking off. The clearance shall contain sufficient information to enable the pilot of the taxiing aircraft or vehicle driver to identify the other traffic and should be related to one movement only.

4.1.4.2 When a clearance to cross a runway in-use is issued, a report vacated instruction shall be included. However, this instruction may be omitted when aerodrome control has continuous sight of the aircraft or vehicle crossing.

#### 4.1.5 Runway Occupancy

4.1.5.1 When aircraft, persons or vehicles have been given permission to cross or occupy a runway in use, the controller shall, as a positive reminder that the runway is blocked, display a strip(s) or marker(s) on the part of the flight progress board which is used to represent the runway.

4.1.5.2 At units where flight progress boards are not used, such runway occupancy is to be shown effectively by a suitable method similar to the above.

#### 4.1.6 Taxying on a Runway-In-Use

4.1.6.1 For the purpose of expediting air traffic, aircraft may be permitted to taxi on the runway-in-use, provided no delay or risk to other aircraft will result. Where control of taxiing aircraft is provided by a ground controller and the control of runway operations by an aerodrome controller, the use of a runway by taxiing aircraft shall be coordinated with and approved by the aerodrome controller. Communication with the aircraft concerned should be transferred from the ground controller to the aerodrome controller prior to the aircraft entering the runway.

**Note:** *In the interests of safety, use of the active runway for taxiing purposes should be kept to a minimum.*

4.1.6.2 If the control tower is unable to determine, either visually or via an ATS surveillance system, 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.

#### 4.1.4 Runway Incursion or Obstructed Runway

4.1.4.1 In the event the aerodrome controller, after a take-off clearance or a landing clearance has been issued, 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 as follows:

- a) Cancel the take-off clearance for a departing aircraft;
- b) Instruct a landing aircraft to execute a go-around or missed approach;
- c) In all cases 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 Annex 2, 2.4 concerning the authority of the pilot-in-command of an aircraft.*

4.1.4.2 Pilots and air traffic controllers shall report any occurrence involving an obstruction on the runway or a runway incursion.

Note 1.\_ Information regarding runway incursion and reporting forms together with instructions for their completion are contained in the Manual on the Prevention of Runway Incursions (Doc 9870). Attention is drawn to the guidance for analysis, data collection and sharing of data related to runway incursions (see Chapter 5 of Doc 9870).

Note 2.\_ The provisions in 7.4.1.4.2 have the objective of supporting the State's safety programme and safety management system (SMS).

## 4.2 Control of Taxiing Aircraft

- 4.2.1 When the pilot of an aircraft requests start-up or taxi clearance the following information shall be given:
- a) Runway in use;
  - b) Surface wind direction and speed, including significant variations;
  - c) Aerodrome QNH;
  - d) Outside air temperature (turbine-engine aircraft only);
  - e) Significant meteorological conditions (e.g. RVR, marked temperature inversion);
  - f) The correct time.
- 4.2.2 Those items which are known to have been received by the pilot may be omitted.
- 4.2.3 Prior to issuing a taxi clearance, the controller shall determine where the aircraft concerned is parked. Taxi clearances shall contain concise instructions and adequate information so as to assist the flight crew to follow the correct taxi routes, to avoid collision with other aircraft or objects and to minimize the potential for the aircraft inadvertently entering an active runway.
- 4.2.4 Aerodrome control responsibility on the apron is limited to providing advice and instructions to assist the prevention of collisions between moving aircraft. The apron may be out of sight from some visual control rooms and in these circumstances any of the following procedures, adapted if necessary to suit local conditions may be used to control moving aircraft:
- a) An aircraft is cleared to taxi. A second aircraft may be given taxi clearance plus information on the position and intention of the first aircraft, with a clear instruction to 'follow' or 'give way' to it;
  - b) An aircraft is cleared to taxi and all further requests for aircraft movement are refused until the first aircraft comes into sight of the controller. A second movement is then approved following the same procedures;
  - c) An aircraft is cleared to taxi and asked to report when clear of the apron or passing an easily identifiable reference point. A second movement may then be cleared subject to the known progress of the first.
- 4.2.5 When a taxi clearance contains a taxi limit beyond a runway, it shall contain an explicit clearance to cross or an instruction to hold short of that runway.
- 4.2.6 The appropriate ATS authority should whenever practicable publish in the national AIP standard taxi routes to be used at an aerodrome. Standard taxi routes should be identified by appropriate designators and should be used in taxi clearances.
- 4.2.7 Where standard taxi routes have not been published, a taxi route should, whenever possible, be described by use of taxiway and runway designators. Other relevant information, such as an aircraft to follow or give way to, shall also be provided to a taxiing aircraft.

### 4.3 Taxi Clearance

4.3.1 The importance of issuing clear and concise instructions to taxiing aircraft cannot be over-emphasised. The visibility from an aircraft flight deck is limited and, when taxiing, the pilot is dependent to a large degree upon aerodrome control to assist him in determining the correct taxi route to be followed. Essential aerodrome information is to be passed to the pilot to assist him in preventing collisions with parked aircraft and obstructions on or near the manoeuvring area.

4.3.2 Heavy aircraft are not to be given clearance or instructions that would require the use of more than normal power for taxiing or for entry on to the runway. Controllers should not clear an aircraft for an immediate take-off unless the pilot has indicated that he is able to do so.

Note: Controllers should take cognisance that when clearing an aircraft for an immediate take-off that certain aircraft may be slow in performing this requirement.

4.3.3 At aerodromes where taxiway stop-bars are used to protect taxiway routes and runways from inadvertent incursions controllers are not to clear aircraft to cross an illuminated stop-bar. The inoperable taxiway stop-bar and its associated taxiway should be withdrawn from service and an alternative routing used. On the occasions when this is not possible an aircraft may be cleared to cross such an illuminated taxiway stop-bar subject to the following conditions:

- a) The stop-bar cannot be suppressed.
- b) The stop-bar and aircraft affected are visible to the aerodrome controller.
- c) The phraseology used is to leave the pilot in no doubt that the clearance applies only to the faulty stop-bar.
- d) In the case of illuminated stop-bars protecting the runway aircraft may not be cleared to cross without the assistance of an aerodrome operations vehicle.

**Note:** *The requirement at b) above may be satisfied by the use of an SMR which has been approved by the CAA for this purpose.*

#### 4.3.4 Uncertainty of Position on the Manoeuvring Area

4.3.4.1 Except as provided for in paragraph 4.3.4.2 below, 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 appropriate ATS unit of the circumstances (including the last known position).

4.3.4.2 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 appropriate ATS 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 instructed by the ATS unit; and then,

- c) Stop the aircraft.
- 4.3.4.3 A vehicle driver in doubt as to the position of the vehicle with respect to the manoeuvring area shall immediately:
- a) Notify the appropriate ATS unit of the circumstances (including the last known position);
  - b) Simultaneously, unless otherwise instructed by the ATS unit, vacate the landing area, taxiway, or other part of the manoeuvring area, to a safe distance as expeditiously as possible; and then,
  - c) Stop the vehicle.
- 4.3.4.4 In the event the aerodrome controller becomes aware of an aircraft or vehicle that is lost or uncertain of its position on the manoeuvring area, appropriate action shall be taken immediately to safeguard operations and assist the aircraft or vehicle concerned to determine its position.

#### 4.4 Taxi Clearance Limit

- 4.4.1 In addition to providing instructions about the route to be followed, all taxi clearances are to contain a specific clearance limit. This clearance limit should be a location on the manoeuvring area or apron.
- 4.4.2 Care must be exercised when clearing an aircraft to the holding point of the runway in-use, for the aircraft is then permitted to cross all runways which intersect the taxi route designated in the clearance whether active or not. Therefore when a taxi clearance contains a taxi limit beyond a runway, it is to contain an explicit clearance to cross that runway. If such a clearance cannot be given, the clearance limit and the specified route must exclude that runway and any route beyond it. When the controller considers it appropriate, the phrase 'hold short' may be used to emphasise that the aircraft is not authorised to cross an intermediate runway.

#### 4.5 Helicopter Taxying Operations

- 4.5.1 When necessary for a wheeled helicopter or vertical take-off and landing (VTOL) aircraft to taxi on the surface, the following provisions are applicable.

**Note:** *Ground taxiing uses less fuel than air-taxiing and minimizes air turbulence. However, under certain conditions, such as rough, soft or uneven terrain, it may become necessary to air-taxi for safety considerations. Helicopters with articulating rotors (usually designs with three or more main rotor blades) are subject to "ground resonance" and may, on rare occasions, suddenly lift off the ground to avoid severe damage or destruction.*

- 4.5.2 When it is requested or necessary for a helicopter to proceed at a slow speed above the surface, normally below 20 kts and in ground effect, air taxying may be authorized.

**Note:** *Air-taxiing consumes fuel at a high burn rate, and helicopter downwash turbulence (produced in ground effect) increases significantly with larger and heavier helicopters.*

4.5.3 Instructions 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.

4.5.4 A frequency change should not be issued to single-pilot helicopters hovering or air-taxiing. Whenever possible, control instructions from the next ATS unit should be relayed 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.

#### 4.6 Jet Blast Hazards

4.6.1 In issuing clearances or instructions, air traffic controllers should take into account the hazards caused by jet blast 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.

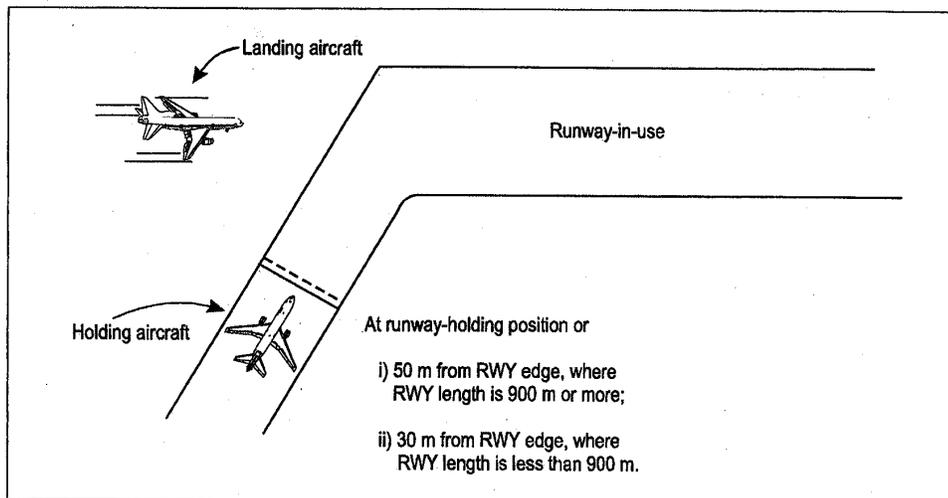
**Note:** Jet blast and propeller slipstream can produce localized wind velocities of sufficient strength to cause damage to other aircraft, vehicles and personnel operating within the affected area.

#### 4.7 Use of Runway-Holding Positions

4.7.1 Except as provided in paragraph 4.5.2 or as prescribed by the appropriate ATS authority, aircraft shall not be held closer to a runway-in-use than at a runway-holding position.

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

4.7.2 Aircraft shall not be permitted to line up and hold on the approach end of a runway-in-use whenever another aircraft is effecting a landing until the landing aircraft has passed the point of intended holding.



## 5 Control of Departing Traffic

### 5.1 Departure sequence

**Note:** Refer to Section 6, Chapter 5 for aerodrome separations.

5.1.1 Departures shall normally be cleared in the order in which they are ready for take-off, except that deviations may be made from this order of priority to facilitate the maximum number of departures with the least average delay. Factors which should be considered in relation to the departure sequence include, *inter alia*:

- a) Types of aircraft and their relative performance;
- b) Routes to be followed after take-off;
- c) Any specified minimum departure interval between take-offs;
- d) Need to apply wake turbulence separation minima;
- e) Aircraft which should be afforded priority; and
- f) Aircraft subject to ATFM requirements.

**Note:** For aircraft subject to ATFM requirements, it is the responsibility of the pilot and the operator to ensure that the aircraft is ready to taxi in time to meet any required departure time, bearing in mind that once a departure sequence is established on the taxiway system, it can be difficult, and sometimes impossible, to change the order.

5.1.2 Aircraft shall not be permitted to line up and wait on the approach end of the runway-in-use whenever another aircraft is affecting a landing or has been cleared for an overshoot below 400 feet, until landing or overshooting aircraft has passed the point of intended holding.

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

5.1.4 An aerodrome controller may, after co-ordination with Approach Control expedite departing traffic by suggesting a take-off direction which is not into wind but the pilot has the right to reject the suggestion.

### 5.2 Take-off Clearance

5.2.1 Take-off clearance may be issued to an aircraft when there is reasonable assurance that the separation in Section 6, Chapter 5, Paragraph 2 has been complied with and will exist when the aircraft commences take-off.

5.2.2 When an ATC clearance is required prior to takeoff, the take-off clearance shall not be issued until the ATC clearance has been transmitted to and acknowledged by the aircraft concerned. The ATC clearance shall be forwarded to the aerodrome control tower with the least possible delay after receipt of a request made by the tower or prior to such request if practicable.

- 5.2.3 Subject to 5.2.2, the take-off clearance shall be issued when the aircraft is ready for take-off and at or approaching the departure runway and the traffic situation permits. To reduce the potential for misunderstanding, the take-off clearance shall include the designator of the departure runway.
- 5.2.4 In the interest of expediting traffic, a clearance for immediate take-off may be issued to an aircraft before it enters the runway. On acceptance of such clearance the aircraft shall taxi out to the runway and take off in one continuous movement, except in the case of a "Heavy aircraft".
- 5.2.5 When given the instruction 'cleared for immediate take-off ' it is expected that the pilot will act as follows:
- a) At the holding point, taxi immediately on to the runway and commence take-off without stopping the aircraft. (Not to be given to Heavy aircraft);
  - b) If already lined up on the runway, take-off without delay.
- 5.2.6 Prior to take-off aircraft shall be advised of:
- a) Any significant changes in the surface wind direction and speed including the cross-wind component where required, the air temperature, and the visibility or RVR value(s) given in accordance with paragraph 4.2.1;
  - 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 1:** See Section 1, Chapter 4 for the Cross-wind Component Table.

**Note 2:** 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, sand storm, dust storm, blowing snow, tornado or waterspout in the take-off and climb-out area.

### 5.3 Cancelling Take-off Clearance

- 5.3.1 If, for any reason, take-off clearance has to be cancelled before the take-off run has commenced, the pilot shall be instructed to hold position and to acknowledge the instruction. If the aerodrome controller considers that it is necessary to cancel takeoff clearance after the aircraft has commenced the take-off run, the pilot shall be instructed to stop immediately and to acknowledge the instruction.
- 5.3.2 The cancellation of a take-off clearance after an aircraft has commenced its take-off roll should only occur when the aircraft will be in serious and imminent danger should it continue. Controllers should be aware of the potential for an aircraft to overrun the end of the runway if the take-off is abandoned, particularly in the case of a large aircraft or when the runway braking may be adversely affected. Because of this risk, even if a take-off clearance is cancelled, the commander of the aircraft may consider it safer to continue the take-off than to attempt to stop the aircraft.

- 5.3.3 Controllers should also be aware of the possibility that an aircraft that abandons its take-off may suffer overheated brakes or other abnormal situation and should be prepared to declare the appropriate category of emergency or to provide other suitable assistance.

## **6 Control of Arriving Aircraft**

### **6.1 Joining the Circuit**

6.1.1 Clearance to enter a traffic circuit is issued when an aircraft is still some distance from the airfield to enable the pilot to conform with the traffic circuit, pending clearance to land. Information concerning landing direction or runway in use and any other necessary instructions are given at the same time so that the pilot may intelligently position himself in the traffic pattern.

6.1.2 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 to be used;
- b) The surface wind direction and speed, including significant variations there from;
- 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:** *The meteorological information listed above is to follow the criteria used for meteorological local routine and special reports.*

6.1.3 If an aircraft enters a traffic circuit without proper authorisation, the possibility of an emergency must be recognised. The aircraft should be permitted to land if its actions indicate that it wishes to do so, and, if necessary, other aircraft are to be instructed to give way.

### **6.2 Essential Local Traffic Information**

6.2.1 Information on essential local traffic shall be issued in a timely manner, either directly or through the unit providing approach control service when, in the judgment of the aerodrome controller, such information is necessary in the interests of safety, or when requested by aircraft.

6.2.2 Essential local traffic shall be considered to consist of 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.

6.2.3 Essential local traffic shall be described so as to be easily identified.

### **6.3 Clearance to Land**

6.3.1 An aircraft may be cleared to land when there is reasonable assurance that the separation prescribed in Section 6, Chapter 5 Paragraph 2 will exist when the aircraft crosses the runway threshold, provided that a clearance to land shall not be issued until a preceding landing aircraft has crossed the runway threshold.

6.3.2 To reduce the potential for misunderstanding, the landing clearance shall include the designator of the landing runway.

#### 6.4 **Landing and Roll-out Manoeuvres**

6.4.1 When necessary or desirable in order to expedite traffic, a landing aircraft may be requested to:

- a) Hold short of an intersecting runway after landing;
- b) Land beyond the touchdown zone of the runway;
- c) Vacate the runway at a specified exit taxiway;
- d) Expedite vacating the runway.

6.4.2 In requesting a landing aircraft to perform a specific landing and/or roll-out manoeuvre, the type of aircraft, runway length, location of exit taxiways, reported braking action on runway and taxiway, and prevailing meteorological conditions shall be considered.

6.4.3 A HEAVY aircraft shall not be requested to land beyond the touchdown zone of a runway.

6.4.4 If the pilot-in-command considers that he or she is unable to comply with the requested operation, the controller shall be advised without delay.

6.4.5 A landing aircraft, which is considered by a controller to be dangerously positioned on final approach, shall be instructed to carry out a missed approach. An aircraft can be considered as 'dangerously positioned' when it is poorly placed either laterally or vertically for the landing runway.

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

#### 6.5 **Abnormal Aircraft Configuration and Condition**

6.5.1 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 aerodrome controller, the aircraft concerned shall be advised without delay.

6.5.2 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.

### 7 **Control of Aerodrome Traffic**

#### 7.1 **General**

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

- 7.1.2 Aircraft in the traffic circuit shall be controlled to provide the separation minima prescribed in Section 6 Chapter 5 Paragraph 2, except that:
- a) Aircraft in formation are exempted from the separation minima with respect to separation from other aircraft of the same flight;
  - b) Aircraft operating in different areas or different runways on aerodromes suitable for simultaneous landings or take-offs are exempted from the separation minima;
  - c) Separation minima shall not apply to aircraft operating under military necessity.
- 7.1.3 Sufficient separation shall be effected between aircraft in flight in the traffic circuit to allow the spacing of arriving and departing aircraft as outlined.

## 7.2 Entry of Traffic Circuit

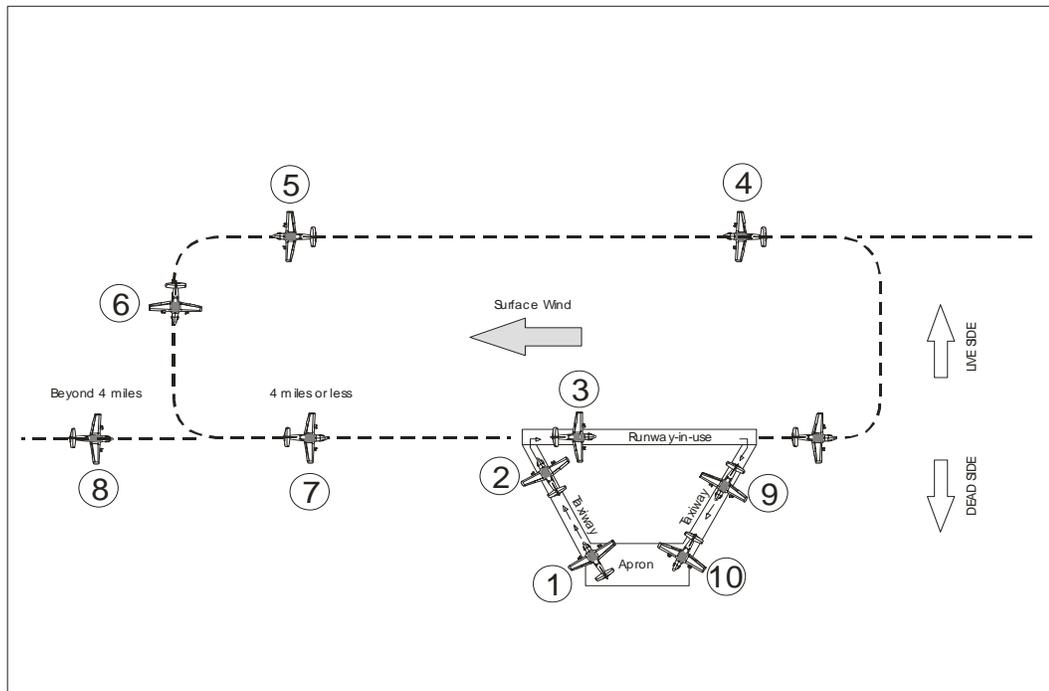
- 7.2.1 The clearance to enter the traffic circuit should be issued to an aircraft whenever it is desired that the aircraft approach the landing area in accordance with current traffic circuits but traffic conditions do not yet allow a landing clearance to be issued. Depending on the circumstances and traffic conditions, an aircraft may be cleared to join at any position in the traffic circuit.
- 7.2.2 An arriving aircraft executing an instrument approach shall normally be cleared to land straight-in unless visual manoeuvring to the landing runway is required.

## 7.3 Priority for Landing

- 7.3.1 Priority shall be given to:
- a) An aircraft which anticipates being compelled to land because of factors affecting the safe operation of the aircraft (engine failure, shortage of fuel, etc.);
  - b) Hospital aircraft or aircraft carrying any sick or seriously injured persons requiring urgent medical attention;
  - c) Aircraft engaged in search and rescue operations; and
  - d) Other aircraft as may be determined by the appropriate authority.
- 7.3.2 In cases of emergency it may be necessary, in the interests of safety, for an aircraft to enter a traffic circuit and effect a landing without proper authorization. Controllers should recognise the possibilities of emergency action and render all assistance possible.

## 7.4 Designated Positions of Aircraft in the Aerodrome Traffic and Taxi Circuits

- 7.4.1 The following positions of aircraft in the traffic and taxi circuits are the positions where the aircraft normally receive aerodrome control tower clearances. The aircraft should be watched closely as they approach these positions so that proper clearances may be issued without delay. Where practicable, all clearances should be issued without waiting for the aircraft to initiate the call.



*Position 1* Aircraft initiates call to taxi for departing flight. Runway-in-use information and taxi clearances given.

*Position 2* If there is conflicting traffic, the departing aircraft will be held at this position. Engine run-up will, when required, normally be performed here.

*Position 3* Take-off clearance is issued here, if not practicable at position 2.

*Position 4* Aircraft reports on 'downwind' leg when abeam upwind end of the runway.

*Position 5* Aircraft reports 'late downwind' if it is on the downwind leg, has been unable to report downwind and has passed the downwind end of the runway.

**Note:** *The down wind position is a mandatory call to be made by all aircraft in the circuit.*

*Position 6* Aircraft reports 'base' leg (if required).

*Position 7* Aircraft reports 'final'. Clearance to land is issued here.

**Note:** *The final approach position is a mandatory call to be made by all aircraft.*

*Position 8* Aircraft reports 'long final' (between 8 and 4 miles) when an aircraft is on a straight-in approach.

*Position 9* Clearance to taxi to apron is issued here.

*Position 10*      Parking information issued here, if necessary.

**Note 1:** *Arriving aircraft executing an instrument approach procedure will normally enter the traffic circuit on final except when visual manoeuvring to the landing runway is required.*

**Note 2:** *For light aircraft operations, circuit dimensions may be reduced however the relative RTF reporting points are maintained.*

## **8 Reporting of Hazardous Surface Wind Conditions**

- 8.1 Messages notifying hazardous surface wind conditions shall be sent when the cross-wind component exceeds 20 knots or:
- a) At aerodromes used by light aircraft when the average wind speed exceeds 20 knots or the gusts exceed 25 knots from any direction;
  - b) At aerodromes used only by large aircraft when the average wind speed or the gusts exceed 30 knots from any direction.
- 8.2 Such messages must be sent as a SVC message using the priority GG and addressed to the collective addresses applicable to the situation.
- 8.3 Once the average surface wind drops below the criteria prescribed in paragraph 8.1, a SVC message shall be sent to cancel the previous message.

## Section 3            Aerodrome Services

### Chapter 2            Aerodrome Flight Information Service (AFIS)

#### 1.            General

- 1.1          Aerodrome flight information service is the term used to describe the provision of information useful for the safe and efficient conduct of aerodrome traffic at those aerodromes designated for use by general aviation where the SACAA determines that the provision of aerodrome control service is not justified. AFIS is not intended to be used at aerodromes designated as regular or alternate aerodromes for international commercial air transport operations.
- 1.2          In determining whether AFIS should be provided at a given aerodrome, the SACAA is expected to give due consideration to the type(s) of air traffic involved, the density of the air traffic, the topographical and meteorological conditions, and such other factors as may be pertinent to safety and efficiency.
- 1.3          Non-controlled aerodromes at which it is determined that AFIS will be provided shall be identified as “AFIS aerodromes” in order to distinguish them from controlled aerodromes.
- 1.4          AFIS shall be provided by a unit located at the aerodrome and shall provide flight information service and alerting service to all known flights operating on the manoeuvring area or within the ATZ (Class G) airspace.
- 1.5          AFIS is an information service only and operators providing AFIS must avoid giving the impression that an Aerodrome Control Service is being provided. AFIS shall not issue clearances; however, when, in their opinion, it will enhance safety, they may make suggestions, however such suggestions must be preceded by the word “Suggest”.

**Note:**    *The AFIS unit is not an air traffic control unit. It is therefore the responsibility of pilots using the service provided by this unit to maintain proper separation in conformity with rules of the air.*

#### 2.            Basic elements of information provided to aircraft

- 2.1          The basic elements of information to be provided to aircraft by an AFIS unit should include, as appropriate, the following:
- a)          Meteorological information for arriving and departing aircraft. Such information shall be the same as that provided to aerodrome traffic by aerodrome control towers
- i.          Current surface wind direction and speed including any significant variations;
  - ii.         Barometric pressure;
  - iii.        Air temperature;
  - iv.        Current visibility;

- v. Significant meteorological conditions in the take-off and climb-out area, or in the approach and landing area; and
  - vi. Present weather including the amount and height of the base of low cloud;
- b) AFIS will select the runway-in-use and pass this information to pilots approaching to land or about to take-off.
- Note:** *The term “runway-in-use” shall be used to indicate the runway which the AFIS considers to be the most suitable at that time for the type of aircraft expected to land at or take-off from the aerodrome.*
- c) Information on known aircraft, vehicles or personnel on or near the manoeuvring area or aircraft operating in the vicinity of the aerodrome, which may constitute a hazard to the aircraft concerned;
- d) Information on aerodrome conditions which is essential to the safe operation of aircraft. Such information should, to the extent possible, be the same as that provided to aerodrome traffic by aerodrome control towers:
- i. Construction or maintenance work on, or immediately adjacent to the manoeuvring area;
  - ii. Rough or broken surfaces on a runway or taxiway;
  - iii. water on a runway;
  - iv. Other temporary hazards such as parked aircraft and birds on the ground or in the air;
  - v. Any unservicability of the aerodrome lighting system; and
  - vi. Any other pertinent information.
- e) Information on changes in the operational status of non-visual navigation aids and visual aids essential for aerodrome traffic;
- f) VHF direction-finding information, when equipment is available;
- g) Messages, including ATC clearances received from other ATSUs for relay to aircraft; and
- h) Any other information contributing to safety.

## 2.2 Declaration of IMC

An AFIS unit shall declare an ATZ (Class G) to be IMC when the cloud ceiling is below 1500 feet and/or the visibility is below 5 km.

### **3 R/T Phraseologies**

#### **3.1 General**

3.1.1 Pilots will frequently ask for clearances using the same phraseology as with Aerodrome Control Units, AFIS operators must guard against using the words 'clear' and 'cleared'.

3.1.2 Clearances that are issued by an ATSU and are subsequently relayed by an AFIS operator, the clearance must be preceded by the name of the ATSU which issued the clearance.

Example: "ZSBMN this is Margate Radio – Johannesburg Area East clears ZS-BMN....."

3.1.3 Any suggestions made to the aircraft must be preceded by the word "Suggest".

Example: "Suggest you use only the taxiways as the grass areas are wet".

#### **3.2 AFIS phraseologies**

3.2.1 Refer to Section 8, "Communications Procedures and Standard Phraseology" for basic ICAO phraseologies.

## **Section 3            Aerodrome Services**

### **Chapter 3            Reporting of Windshear**

#### **1            Introduction**

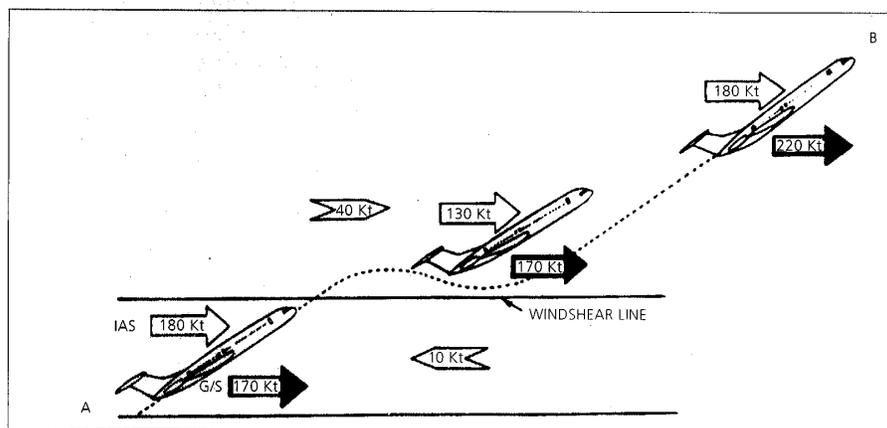
- 1.1    Windshear is a sustained change in the wind velocity along the aircraft flight path, which occurs significantly faster than the aircraft can accelerate or decelerate.
- 1.2    Windshear can occur at any level, but it is 'low level windshear', occurring from the surface to a height of approximately 1500 feet, which can cause problems of sufficient magnitude to affect the control of aircraft in departure or final approach phases of flight.

#### **2            Conditions Conducive to Windshear**

- 2.1    Controllers should be alert to the possibility of the existence of windshear in the following circumstances:
  - a)     The presence of frontal/squall/thunderstorm activity in the vicinity of the airfield.
  - b)     The presence of low level inversions where the surface wind will be significantly different from that at only a few hundred feet above the ground.
  - c)     Local terrain or buildings considered in relation to wind speed and direction; such large obstructions can cause windshear as well as the more usual turbulence and gusts.

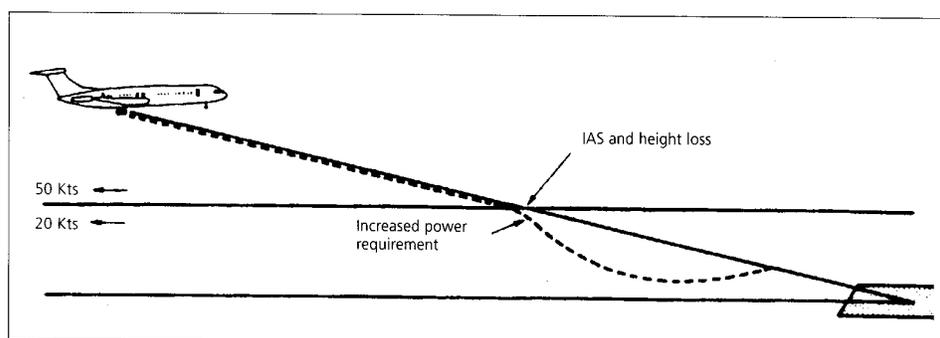
#### **3            Effects of Windshear**

- 3.1    A combination of factors can make the analysis of windshear very complex, but three simple examples of the hazards of low level windshear are shown below:
  - a)     As the aircraft flies from A to B and traverses the windshear line, the inertia of the aircraft maintains the ground speed of 170 kts and the change of wind vector causes a sudden fall in airspeed. This can result in reduced lift until the inertia of the aircraft has been overcome and the original airspeed regained. Clearly this may be hazardous at critical climb out speeds.



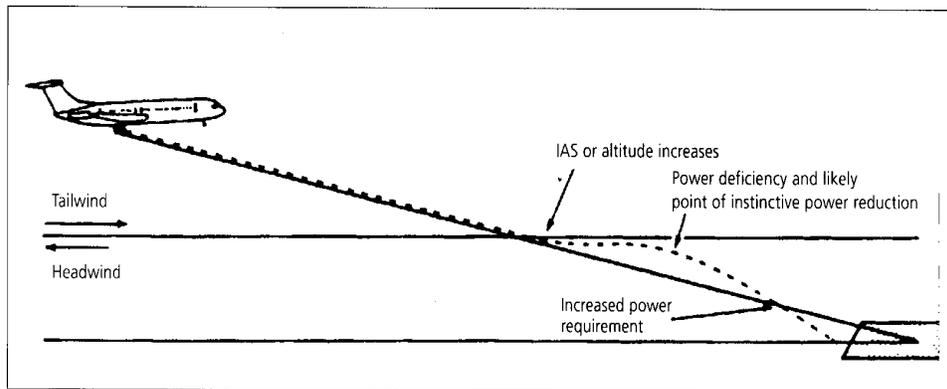
**Figure 1** Climb Out Phase

- b) If an aircraft on final approach passes through a windshear line which causes a sudden loss of airspeed and a consequent increase in the rate of descent, a rapid application of power will be required if the aircraft is not to sink to a dangerously low height.



**Figure 2** Final Approach

- c) If the aircraft passes through a windshear line from a tailwind to a headwind component the inertia of the aircraft results initially in an *increased airspeed* and a deviation above the glidepath. The pilot's instinctive power reduction can result in the aircraft being short of power with a high rate of descent as the glidepath is approached and the effect of the inertia is lost. A rapid increase of power is now required if the aircraft is not to sink below the glidepath at a dangerously low altitude.



**Figure 3** Final Approach

#### 4 ATC Action

4.1 Due to the need to maintain both a safe margin above the stalling speed and a clearly defined flight profile, particularly during the climb-out and approach phases of flight, sudden changes in airspeed must be countered very rapidly.

4.2 Whenever a pilot reports windshear conditions to ATC, the information shall be relayed to subsequent inbound and outbound aircraft until confirmation is received that the condition no longer exists.

4.2.1 A pilot experiencing windshear should try to provide the following information to ATC:

- a) A simple warning of the presence of windshear, even if no further information can be provided;
- b) The height or height band where the windshear was encountered;
- c) Details of the effects of the windshear on the aircraft i.e. speed loss or gain, vertical speed tendency etc.
- d) If at all possible an estimate of the wind structure between the relevant levels.

**Note 1:** *Pilots of aircraft equipped with INS or other devices giving instant readouts of drift and ground speed should make full use of these facilities in order to give a quantitative description of the windshear.*

- e) The magnitude of any temperature inversion;
- f) A description of the layout of weather fronts or other identifiable phenomena.

**Note 2:** *The above information, particularly a) to c) should be given as soon as possible on the tower or any other convenient RTF frequency.*

4.3 On receiving notification of the presence of windshear, ATC should pass the following information without delay to aircraft taking-off or landing as well as to other aircraft likely to be affected:

- a) A warning of the likely occurrence of wind shear based on pilot reports. If these reports have been given in terms of the effect on the aircraft, the warning from ATC should make it clear what manoeuvre was being performed at the time by the aircraft making the report, what type of aircraft made the report, and whether speed and height loss or gain was experienced.

*Example:* To an aircraft on approach to runway 24:

*"A 737 which has just taken off from runway 24 reports strong wind shear at 300 feet, giving a speed increase of 30 knots, and a strong drift to the left."*

- b) A warning of a likely occurrence of windshear, based on MET office assessment of the current weather situation;
- c) The known wind velocities at various heights when shear is known to exist,

*Example:* "Surface wind 300/10 knots; wind at 500 feet 340/40 knots".

It may sometimes be desirable to amplify this in order to give an indication of the gradient of the shear.

*Example:* "Surface wind 300/10 knots: sudden wind shear at 500 feet 340/40 knots'

**or**

*"Surface wind 300/10 knots; gradual wind shear from 340/40 knots at 500 feet down to surface".*

- d) Where windshears are associated with a known frontal system, or other identifiable weather phenomena, this can be expressed in terms such as:-

*"Occlusion just to the west of airfield, Surface wind at 5 miles west is 360/25 knots; surface wind at airfield is 080/10 knots"*

During prolonged periods of windshear the information should be included in ATIS broadcasts and should be subject to review at appropriate intervals by requesting further pilot reports;

- e) The magnitude of any temperature inversion.

#### 4.3 **ATIS Broadcasts**

At airfields where ATIS is available windshear information may be included in the broadcasts. Controllers should amplify the information for individual aircraft if necessary.

## Section 3 Aerodrome Services

### Chapter 4 Use of Surveillance Systems in Aerodrome Control Services

#### 1 Situation Display (SD)

- 1.1 An ASD is provided at certain aerodromes to assist in achieving maximum runway utilisation and aerodrome capacity. Operation of an SD is not associated with a particular rating and must not be used as an ATS surveillance system to provide approach services unless the controller has undertaken specified training and is suitably rated and validated to do so.
- 1.2 When authorised by and subject to conditions prescribed in the ATSU SSI Manual, an AD may be used in the provision of an aerodrome control service to perform the following functions:
- Determine the landing order, spacing and distance from touchdown of arriving aircraft,
  - Assist in applying longitudinal separation for departing aircraft;
  - Enable the controller to confirm that the initial track of a departing aircraft conforms with the clearance issued;
  - Monitoring of other aircraft in the vicinity of the aerodrome;
  - Provide information to aircraft on the position of other aircraft in the circuit or carrying-out an instrument approach; and
  - Providing navigation assistance to VFR flights.
- 1.3 In prescribing conditions and procedures for the use of an SD in the provision of aerodrome control service, the appropriate ATS authority shall ensure that the availability and use of radar information will not be detrimental to visual observation of aerodrome traffic.

**Note:** *Control of aerodrome traffic is based on visual observation of the manoeuvring area and the vicinity of the aerodrome by the aerodrome controller.*

#### 2. Use of Advanced Surface Movement Ground Control Systems (ASMGCS)

**Note:** *Requirements concerning the provision of Surface Movement Radar (SMR) are contained in Annex 14, Volume I, Chapter 8. Guidance material on the use of SMR is contained in the Air Traffic Services Planning Manual (Doc 9426), Part II.*

##### 2.1 General Provisions

- 2.1.1 The use of ASMGCS should be related to the operational conditions and requirements of the particular aerodrome (i.e. visibility conditions, traffic density and aerodrome layout).
- 2.1.2 ASMGCS systems shall enable the detection and display of the movement of all aircraft and vehicles on the manoeuvring area in a clear and unambiguous manner.

2.1.3 Aircraft and vehicle position indications may be displayed in symbolic or non-symbolic form. Where **electronic data** labels are available for display, the capability should be provided for inclusion of aircraft and vehicle identification by manual or automated means.

## 2.2 Functions

2.2.1 AMGCS should be used to augment visual observation of traffic on the manoeuvring area and to provide surveillance of traffic on those parts of the manoeuvring area which cannot be observed visually.

2.2.2 The information displayed on an AMGCS display may be used to assist in:

- a) Monitoring of aircraft and vehicles on the manoeuvring area for compliance with clearances and instructions;
- b) Determining that a runway is clear of traffic prior to a landing or take-off;
- c) Providing information on essential local traffic on or near the manoeuvring area;
- d) Determining the location of aircraft and vehicles on the manoeuvring area;
- e) Providing directional taxi information to aircraft when requested by the pilot or deemed necessary by the controller. Except under special circumstances, e.g. emergencies, such information should not be issued in the form of specific heading instructions;
- f) Providing assistance and advice to emergency vehicles.

## 2.3 Identification of Aircraft

2.3.1 Where AMGCS is used, aircraft may be identified by one or more of the following procedures:

- a) By correlating a particular radar position indication with:
  - i) An aircraft position visually observed by the controller;
  - ii) An aircraft position reported by the pilot; or
  - iii) An identified radar position indication displayed on a surveillance situational display;
- b) By transfer of ATS surveillance system identification when authorised by the appropriate ATS authority; and
- c) By automated identification procedures when authorised by the appropriate ATS authority.

## **Section 3            Aerodrome Services**

### **Chapter 5            Aerodrome Lighting Aids**

#### **1.            Operation of Aeronautical Lights**

1.1        Aerodrome Control is responsible for the operation of all aeronautical lights which are controlled from the control tower.

1.2        Aerodrome Control shall bring to the attention of the appropriate authorities those aeronautical lights such as obstruction lights which are unserviceable and that may pose a safety risk to local air traffic.

1.3        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 air traffic controllers in effecting adjustment of these lights to suit the prevailing conditions. When requested by an aircraft, further adjustment of the intensity shall be made whenever possible.

#### **1.4            Monitoring of Visual Aids**

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

1.4.2      In the absence of an automatic monitoring system or to supplement such a system, the aerodrome controller shall visually observe such lighting as can be seen from the aerodrome control 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.

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

#### **2.            Period of Operation**

2.1        All aeronautical ground lights shall be operated in the following circumstances:

- a)        Continuously during the official hours of darkness;
- b)        At any time when their use based on weather conditions is considered desirable for the safety of air traffic.

2.2        Lights on and in the vicinity of aerodromes that are not intended for en-route navigation purposes may be turned off 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.

#### **3.            Approach Lighting**

3.1        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.

- 3.2 In addition to Chapter 5, paragraph 2.1; approach lighting shall be operated:
- a) By day when requested by an approaching aircraft;
  - b) When the associated runway lighting is operated.
- 3.3 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. Runway Lighting**

- 4.1 Runway lighting includes lights such as edge, threshold, centre line, end, touchdown zone and wing bar lights.
- 4.2 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 Runway lighting following a take-off shall be provided at aerodromes where air traffic control service 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.

#### **5. Stopway Lighting**

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

#### **6. Taxiway Lighting**

- 6.1 Taxiway lighting includes such lights as edge visual aids lights, centre line lights, stop bars and clearance bars.
- 6.2 Where required to provide taxi guidance, taxiway lighting shall be turned on in such order that a continuous indication of the taxi path is presented to taxiing aircraft. Taxiway lighting or any portion thereof may be turned off when no longer needed.

#### **7. Stop Bars**

- 7.1 Stop bars shall be switched on to indicate that all traffic shall stop and switched off to indicate that traffic may proceed.

**Note 1:** *Stop bars are located across taxiways at the point where it is desired that traffic stop, and consist of lights, showing red, spaced across the taxiway.*

**Note 2:** *Those aerodromes equipped with Stop Bar lights should operate these lights on a twenty-four hour basis irrespective of whether VMC prevails or not in order to prevent Runway Incursions.*

**8. Obstacle Lighting**

- 8.1 Obstacle lighting includes such lights as obstacle, unservicability lights and hazard beacons.
- 8.2 Unservicability lights may not be turned off as permitted under Chapter 5, paragraph 2.2 while the aerodrome is open.

## **Section 3            Aerodrome Services**

### **Chapter 6            Aerodrome Serviceability**

#### **1.            Closure or Restricted Operation of Aerodromes**

##### **1.1            Responsibility of the Aerodrome Authority**

1.1.1 The aerodrome authority is responsible for decisions regarding the operational status of the aerodrome including the apron and manoeuvring area in respect of:

- a)        Routine operational limitations, e.g. runway maintenance;
- b)        Unforeseen hazards to aircraft operations, e.g. deteriorating surface conditions, obstructions etc. The aerodrome authority will also make decisions regarding:
  - i)        The closure or re-opening of the aerodrome;
  - ii)       The withdrawal or return to use of runways (taxiways) and associated lighting aids;
  - iii)      The revision of declared distances;
  - iv)      Any marking required in connection with the above;
  - v)        Initiating NOTAM action to promulgate changes in serviceability.

##### **1.2            Responsibility of the Air Traffic Control Unit**

1.2.1 The aerodrome authority shall be informed immediately aerodrome control becomes aware from reports or observations that there is a hazard to the movement of aircraft on the apron or manoeuvring area

1.2.2 The aerodrome authority may take some time to assess the situation. During this period the controller is to decide the action to take according to the circumstances:

- a)        Where an operational occurrence has resulted in an obstruction in the vicinity of the runway in use:
  - i)        Withhold take-off and landing clearance when the obstruction is within the cleared and graded area of the runway;
  - ii)       Withhold take-off and landing clearance if there is any doubt as to the position of the obstruction.
  - iii)      Pilots will be advised of the reason for withholding clearance together with the position and nature of the obstruction.

- b) When the obstruction is obviously outside the cleared and graded area but on or in the vicinity of the apron or manoeuvring area the pilot will be advised of the position and nature of the obstruction. It is the responsibility of the pilot to decide whether or not to continue operations.

1.2.3 When the aerodrome authority has decided upon the operational status of the apron or manoeuvring area, they will inform the air traffic control unit of any restrictions or closures. The ACC should be informed of any situations which may restrict operations at the aerodrome.

## **2. Work on the Manoeuvring Area**

2.1 When repair or installation work, authorised by the aerodrome authority, is to take place on the manoeuvring area, a representative of the working party must be briefed by air traffic control about subjects relating to the proposed work, for example:

- a) Methods of access to working area,
- b) The area in which vehicles may operate,
- c) The runway in use and the effects of any changes,
- d) Methods of obtaining permission to cross the runway in use,
- e) Signals or methods of indicating that vehicles and personnel must leave the manoeuvring area.

2.2 The representative of the working party should possess an authorisation to work on the aerodrome issued by the aerodrome authority. This is to be counter-signed by the senior controller on duty, subsequent to the briefing, and a copy retained or a record of the briefing entered in the ATC Occurrence Log book.

## **3. Inspection of Runways**

3.1 At least two regular inspection should be made daily. At aerodromes which are open 24 hours, the first runway inspection should be conducted as soon as practicable after first light. At non-24 hour stations the inspection should take place before flying commences. A further inspection should take place before night flying.

3.2 Additional surface inspections should be made:

- a) At cessation of work on the manoeuvring area;
- b) When a runway not previously inspected is brought into use;
- c) Following an aircraft accident;
- d) Following an abandoned take-off by a turbine engine aircraft due to engine malfunction, or by any aircraft due to burst tyres;
- e) During adverse weather conditions where the possibility of standing water is suspected;

- f) Following an emergency landing or precautionary landing;
- g) When considered necessary by the air traffic control unit or the aerodrome authority or as detailed in the SSI Manual.

#### 4. Aerodrome Fire/ Rescue Service

##### 4.1 General

4.1.1 Where aerodrome fire/ rescue services are provided aerodrome control is responsible for:-

- a) Alerting the fire/ rescue services whenever aerodrome control is aware of any accident or potential hazard, e.g. Aerodrome control should alert the aerodrome fire/ rescue services to stand-by whenever an aircraft is making a landing with one or more engines shut-down

**Note 1:** *This procedure may be omitted in the case of training flights intentionally making practice asymmetric landings.*

**Note 2:** *The term "asymmetric" means that a twin engine aircraft is operating on one engine, or a multi-engine aircraft is operating with one or more of its engines inoperative on one side.*

- b) Alerting aerodrome fire/ rescue services when an aircraft advises before landing that it has or suspects it has, undercarriage or brake failure. If the aircraft has no other form of failure which necessitates an immediate landing, aerodrome control should not clear the aircraft for landing until the aerodrome fire/ rescue services have taken up position or it is clear that they will be able to do so while the aircraft is on final approach.
- c) In the event of an aborted take-off by any aircraft the aerodrome fire/ rescue services shall be alerted immediately.

4.1.2 Aerodrome control shall ensure that aircraft are advised prior to take-off and landing if the safety services are not fully available, owing to attendance at an incident or due to major unservicability. It will then be the responsibility of the pilot-in-command of an aircraft to decide whether such deficiencies necessitate a change of flight plan.

4.1.3 Air traffic control should co-operate with the aerodrome fire service and aerodrome authority in the pre-planning of preferential routes through the manoeuvring area.

4.1.4 Controllers are to ensure that they are familiar with these routes.

##### 4.2 Aerodrome Categories

4.2.1 The fire service category of an aerodrome is assessed according to the length of the longest aircraft expected to use it.

### 4.3 Temporary Depletion

- 4.3.1 Temporary depletion of the fire service may restrict the use of the aerodrome and the aerodrome authority is responsible for ensuring that arrangements are made to warn pilots and aircraft operators of any significant changes in the level of protection available. If any depletion is significant enough to warrant a restriction of aeroplane movements then the temporary level of fire service category should be immediately promulgated by NOTAM and radio. When fire services are depleted ATS Management of the ACC must be informed.

### 4.4 Practice Exercises and Drills

- 4.4.1 The necessity for rapid and co-ordinated action in the event of a crash requires the closest co-operation between the air traffic control unit and the aerodrome fire service, and the frequent rehearsal of procedures.
- 4.4.2 The air traffic control unit, in consultation with the aerodrome fire service, is to assist in providing practice emergencies which are to be held frequently and made as realistic as possible.

### 4.5 Exercises on the Manoeuvring Area

- 4.5.1 The aerodrome fire service will obtain clearance and any special instructions from aerodrome control before testing vehicles or carrying out exercises on the manoeuvring area.
- 4.5.2 Arrangements shall be made in co-operation with the aerodrome fire officer for the air traffic control unit to provide instruction to aerodrome fire service personnel concerning instructions used on an aerodrome.

### 4.6 Other Duties of the Aerodrome Fire Service

- 4.6.1 At certain airfields the aerodrome fire service may undertake other extraneous duties. These duties must not interfere with the prime function of the aerodrome fire service.
- 4.6.2 The aerodrome fire service is frequently called upon for 'Special Services'. These include attendance at accidents to personnel, pumping out flooded premises, clearance of fuel spillage etc. If any of these is considered to be an emergency and occur within the radius of action of the aerodrome fire service, attendance will be made immediately. The air traffic control unit will be informed and advised of any depletion of the emergency services.