

CHAPTER 7

AERODROME CONTROL SERVICE**7.1 FUNCTIONS OF AERODROME CONTROL TOWERS**

7.1.1 Aerodrome control towers shall issue information and clearances to aircraft under their control to achieve a safe, orderly and expeditious flow of air traffic on and in the vicinity of an aerodrome with the object of preventing collision(s) between:

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

7.1.2 Aerodrome controllers shall maintain a continuous watch on all flight operations on and in the vicinity of an aerodrome as well as vehicles and personnel on the manoeuvring area. Watch shall be maintained by visual observation, augmented in low visibility conditions by radar when available. Traffic shall be controlled in accordance with the procedures set forth herein and all applicable traffic rules specified in MATS 2 / Temporary Local Instructions (TLI) of the concerned airport. If there are other aerodromes within a control zone, traffic at all aerodromes within such a zone shall be coordinated so that traffic circuits do not conflict.

7.1.3 The functions of an aerodrome control tower may be performed by different control or working positions, such as :
- aerodrome controller, normally responsible for operations on the runway and aircraft flying within the area of

responsibility of the aerodrome control tower;

* ground controller, normally responsible for traffic on the manoeuvring area with the exception of runways.

7.1.4 Where parallel or near parallel runways are used for simultaneous operations, individual aerodrome controllers should be responsible for operations on each of the runways.

7.2 ALERTING SERVICE PROVIDED BY AERODROME CONTROL TOWERS

7.2.1 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.

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

7.2.3 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 or rescue sub-centre, in accordance with local instructions.

7.3 FAILURE OR IRREGULARITY OF AIDS AND EQUIPMENT

Aerodrome control towers shall immediately report in accordance with local 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 provision of air traffic control start time procedures are employed.

7.4 SELECTION OF RUNWAY-IN-USE

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

7.4.2 In selecting runway-in-use the unit providing aerodrome control service shall take into consideration, besides surface wind speed and direction, other relevant factors such as the aerodrome traffic circuits, the length of runways, and the approach and landing aids available.

7.4.3 If the runway-in-use is not considered suitable for the operation involved, the flight crew may request permission to use another runway and, if circumstances permit, should be cleared accordingly.

7.4.4 Only one aircraft shall be cleared to land on the runway-in-use at any one time except formation flight by military aircraft.

7.4.4 Whenever change of the runway-in-use is necessary the aerodrome controller, after prior consultation with approach control, shall inform to aircraft under his

control and other agencies according to local instructions.

7.5 INFORMATION TO AIRCRAFT BY AERODROME CONTROL TOWERS

7.5.1 Information related to the operation of aircraft

7.5.1.1 Start-Up Time Procedures

Start-up time procedures should be contained in the local instructions and should specify the criteria and conditions for determining when and how start-up times shall be calculated and issued to departing aircraft.

7.5.1.2 Aerodrome and Meteorological Information

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

- a) the runway to be used;
- b) the surface wind direction and speed, including significant variations;
- c) the QNH altimeter setting and, either on a regular basis in accordance with local arrangements or if so requested by the aircraft, the QFE altimeter setting;
- d) the air temperature for the runway to be used, in the case of turbine-engine aircraft;
- e) the visibility representative of the direction of take-off and initial climb, if less than 10 km, or, when applicable, the RVR value(s) for the runway to be used;
- f) the correct time.

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

- a) any significant changes in the surface wind direction and speed, the air temperature, and the visibility or RVR value(s)

- b) significant meteorological conditions in the take-off and climb-out area, except when it is known that the information has already been received by the aircraft.

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

7.5.1.2.3 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

7.5.2 Essential Local Traffic Information

7.5.2.1 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.

7.5.2.2 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.

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

7.5.3 Obstructed Runway

In the event the aerodrome controller observes, after a take-off clearance or a landing clearance has been issued, any obstruction on the runway likely to impair the safety of an aircraft taking off or landing, such as a runway incursion by an aircraft or vehicle, or animals or flocks of birds on the runway, appropriate action shall be taken as follows:

- a) in all cases inform the aircraft concerned of the obstruction and its location on the runway;
- b) cancel the take-off clearance for an aircraft which has not started to roll;
- c) instruct a landing aircraft to go around.

7.5.4 Wake Turbulence and Jet Blast Hazard

7.5.4.1 Aerodrome controllers shall, when applicable, apply the wake turbulence separation minima specified in Chapter 5. Whenever the responsibility for wake turbulence avoidance rests with the pilot-in-command, aerodrome controllers shall, to the extent practicable, advise aircraft of the expected occurrence of hazards caused by turbulent wake.

7.5.4.2 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.

7.5.5 Abnormal Aircraft Configuration and Condition

7.5.5.1 Whenever an abnormal configuration or condition of an aircraft is observed by or reported to the aerodrome controller, the aircraft concerned shall be advised without delay.

7.5.5.2 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.

7.6 ESSENTIAL INFORMATION ON AERODROME CONDITIONS

7.6.1 Essential information on aerodrome conditions is information necessary to safety in the operation of aircraft, which pertains to the movement area or any facilities usually associated

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

- a) construction or maintenance work on, or immediately adjacent to the movement area;
- b) rough or broken surfaces on a runway, a taxiway or an apron, whether marked or not;
- c) snow, slush or ice on a runway, a taxiway or an apron;
- d) water on a runway, a taxiway or an apron;
- e) snow banks or drifts adjacent to a runway, a taxiway or an apron;
- f) other temporary hazards, including parked aircraft and birds on the ground or in the air;
- g) failure or irregular operation of part or all of the aerodrome lighting system;
- h) any other pertinent information.

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

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

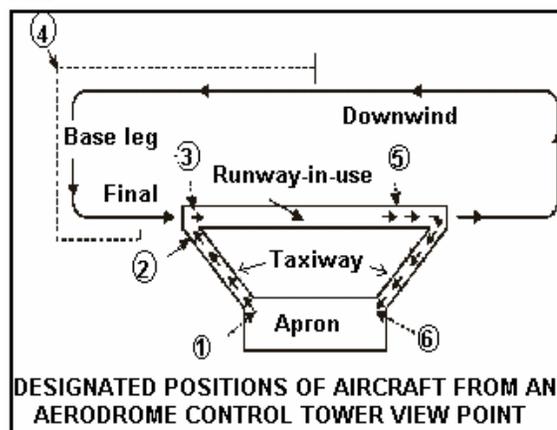
7.7 CONTROL OF AERODROME TRAFFIC

7.7.1 General

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.

7.7.2 Designated positions of aircraft in the aerodrome traffic and taxi circuits

The following positions of aircraft in the traffic and taxi circuits are the positions where the aircraft normally receive aerodrome control tower clearances. 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. Clearance to land is issued here as practicable.

Position 5. Clearance to taxi to apron is issued here.

Position 6. Parking information issued here, if necessary.

7.7.3 Traffic on the manoeuvring area

7.7.3.1 Control of Taxiing Aircraft

7.7.3.1.1 Taxi Clearance

- a) 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.
- b) 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.

7.7.3.1.2 Taxiing on a Runway-In-Use

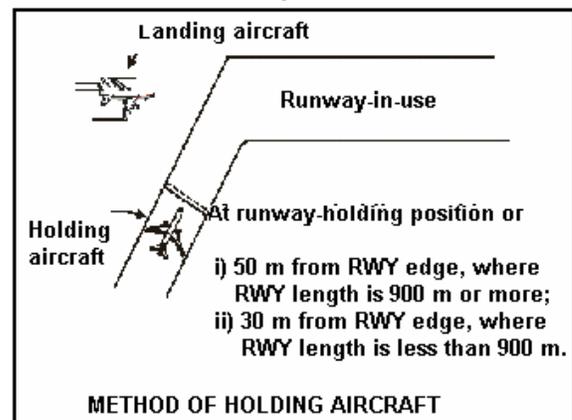
- a) For the purpose of expediting air traffic, aircraft may be permitted to taxi on the runway-in-use, provided no delay or risk to other aircraft will result. Where control of taxiing aircraft is provided by a ground controller and the control of runway operations by an aerodrome controller, the use 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.

- b) If the control tower is unable to determine, either visually or by radar, 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 aircraft is well clear of the runway.

7.7.3.1.3 Use of Runway-Holding Positions

- a) Except as provided in b) below, aircraft shall not be held closer to a runway-in-use than at a runway-holding position.
- b) 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.



7.7.4 Helicopter Taxiing Operations

7.7.4.1 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.

7.7.4.2 When it is requested or necessary for a helicopter to proceed at a slow speed above the surface, normally below 20 kt and in ground effect, air taxiing 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.

7.7.4.3 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

7.7.4.4 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.

7.7.5. CONTROL OF OTHER THAN AIRCRAFT TRAFFIC

7.7.5.1 Entry to the Manoeuvring Area

7.7.5.1.1 The movement of persons or vehicles including towed aircraft on the manoeuvring area of an aerodrome shall be controlled by the aerodrome control tower

as necessary to avoid hazard to them or to aircraft landing, taxiing or taking off. 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.

7.7.5.1.2 In conditions where low visibility procedures are in operation:

- a) persons and vehicles operating on the manoeuvring area of an aerodrome shall be restricted to the essential minimum, and particular regard shall be given to the requirements to protect the ILS sensitive area(s) when Category II or Category III A precision instrument operations are in progress;
- b) Subject to the provisions in 7.8.5.2.1, the vehicles shall remain at safe distance from taxiing aircraft.

7.7.5.2 Priority on the Manoeuvring Area

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

7.7.5.2.2 Subject to the provisions in 7.7.5.2.1, vehicles on the manoeuvring area shall be required to comply with the following rules:

- a) vehicles, vehicles towing aircraft and pedestrians shall give way to aircraft which are landing, taking off or taxiing;
- b) vehicles shall give way to other vehicles towing aircraft;
- c) vehicles shall give way to other vehicles in accordance with ATS unit instructions;



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

7.7.5.2.3 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.

7.7.5.3 Communication Requirements and Visual Signals

7.7.5.3.1 At controlled aerodrome 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 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.

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

Light signal from aerodrome control	Meaning
Green flashes	Permission to cross landing area or to move onto taxiway
Steady red	Stop
Red flashes	Move off the landing area or

	taxiway and watch out for aircraft
White flashes	Vacate manoeuvring area in accordance with local instructions

7.7.5.3.3 In emergency conditions or if the signals in 7.8.5.3.2 are not observed, the signal given hereunder shall be used for runways or taxiways equipped with a lighting system and shall have the meaning indicated therein

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

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

7.7.5.4 Runway Occupancy

7.7.5.4.1 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.

7.7.5.4.2 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.

7.8. CONTROL OF TRAFFIC IN THE TRAFFIC CIRCUIT

7.8.1 General

7.8.1.1 Aircraft in the traffic circuit



shall be controlled to provide the separation minima outlined in 7.10.2, 7.11.1 and Chapter 5, Section 5.9, 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.

7.8.1.2 Sufficient separation shall be effected between aircraft in flight in the traffic circuit to allow the spacing of arriving and departing aircraft as outlined in 7.10.2, 7.11.1 and Chapter 5, Section 5.9.

7.8.2 Entry of traffic circuit

7.8.2.1 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.

7.8.2.2 An arriving aircraft executing an instrument approach shall normally be cleared to land straight in unless visual manoeuvring to the landing runway is required.

7.8.3 Priority for landing

7.8.3.1 If an aircraft enters an aerodrome traffic circuit without proper authorization, it shall be permitted to land if its actions indicate that it so desires. If circumstances warrant, aircraft which are in contact with the controller may be instructed by the controller to give way so as to remove as soon as possible the hazard

introduced by such unauthorized operation. In no case shall permission to land be withheld indefinitely.

7.8.3.2 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 recognize the possibilities of emergency action and render all assistance possible.

7.8.3.3 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;
- d) VVIP aircraft.

7.9 ORDER OF PRIORITY FOR ARRIVING AND DEPARTING AIRCRAFT

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

7.10 CONTROL OF DEPARTING AIRCRAFT

7.10.1 Departure sequence

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.

7.10.2 Separation of departing aircraft

A departing aircraft will not normally be permitted to commence take-off until the preceding departing aircraft has crossed the end of the runway-in-use or has started a turn or until all preceding landing aircraft are clear of the runway-in-use.

7.10.3 Take-off clearance

7.10.3.1 Take-off clearance may be issued to an aircraft when there is reasonable assurance that the separation in 7.10.2 will exist when the aircraft commences take-off.

7.10.3.2 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.

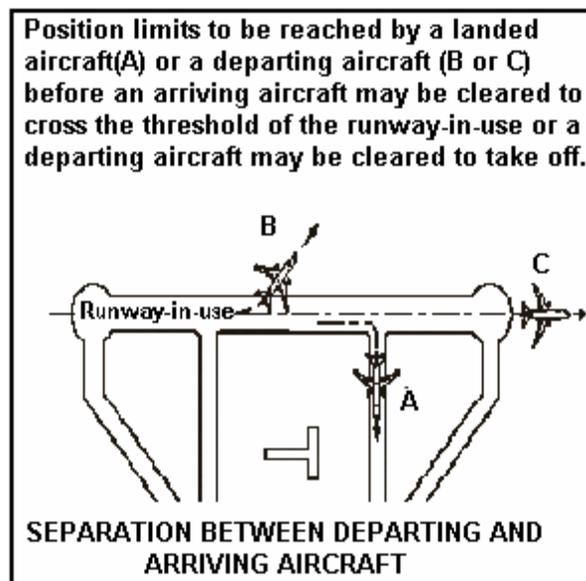
7.10.3.3 Subject to 7.10.3.2, the take-off clearance shall be issued when the aircraft is ready for take-off and at or approaching the departure runway, and the traffic situation permits. To reduce the potential for misunderstanding, the take-off clearance shall include the designator of the departure runway.

7.10.3.4 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.

7.11 CONTROL OF ARRIVING AIRCRAFT

7.11.1 Separation of landing aircraft and preceding landing and departing aircraft using the same runway

A landing aircraft will not normally be permitted to cross the runway threshold on its final approach until the preceding departing aircraft has crossed the end of the runway-in-use, or has started a turn, or until all preceding landing aircraft are clear of the runway-in-use.



7.11.2 Clearance to land

An aircraft may be cleared to land when there is reasonable assurance that the separation in 7.11.1 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. To reduce the potential for misunderstanding, the landing clearance shall include the designator of the landing runway.

7.11.3 Landing and roll-out manoeuvres



7.11.3.1 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.

7.11.3.2 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 weather conditions shall be considered. A HEAVY aircraft shall not be requested to land beyond the touchdown zone of a runway.

7.11.3.3 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.

7.11.3.4 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 aircraft is well clear of the runway.

7.12 PROCEDURES FOR LOW VISIBILITY OPERATIONS

7.12.1 Control of aerodrome surface traffic in conditions of low visibility

7.12.1.1 In conditions where low visibility procedures are in operation, persons and vehicles operating on the manoeuvring area of an aerodrome shall be restricted to the essential minimum, and particular regard shall be given to the requirements to protect the ILS sensitive area(s) when Category II or Category III A precision instrument operations are in progress.

7.12.1.2 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:

7.12.1.2.1 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.

7.12.1.2.2 Subject to the provisions in 7.8.5.2.1, the vehicles shall remain at safe distance from taxiing aircraft.

7.13 SUSPENSION OF VISUAL FLIGHT RULES OPERATIONS

7.13.1 Any or all VFR operations on and in the vicinity of an aerodrome may be suspended by any of the following units, persons or authorities whenever safety requires such action:

- a) the approach control unit or the appropriate ACC;
- b) the aerodrome control tower;

7.13.2 All such suspensions of VFR operations shall be accomplished through or notified to the aerodrome control tower.

7.13.3 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.

7.14 AUTHORIZATION OF SPECIAL

**VFR FLIGHTS :**

When traffic conditions permit, special VFR flights may be authorized subject to the approval of the unit providing approach control service and the following provisions:

- a) Requests for such authorization shall be handled individually.
- b) *Separation shall be effected between all special VFR flights and between such flights and IFR flights in accordance with separation minima applicable to IFR flights.
- c) When the ground visibility is not less than 1 500 m, special VFR flights may be authorized to: enter a control zone for the purpose of landing, take off and depart from a control zone, cross a control zone or operate locally within a control zone. Performance Class I, Performance Class II and military helicopters may be authorized to operate special VFR flights when the ground visibility is not less than 1000 meters.

PERFORMANCE CLASS I HELICOPTER :

A helicopter with performance such that, in case of critical power- unit failure, it is able to land on the rejected take-off area or safely continue the flight to an appropriate landing area depending on when the failure occurs.

PERFORMANCE CLASS 2 HELICOPTER:

A helicopter with performance such that, in case of critical power-unit failure, it is able to safely continue the flight, except when the failure occurs prior to a defined point after take-off or after a defined point before landing, in which cases a forced landing may be required.

7.15 AERONAUTICAL GROUND LIGHTS.**7.15.1 General**

7.15.1.1 All aeronautical ground lights shall be operated

- a) during the time from sunset to sun rise;

- b) during time from sunrise to sunset when visibility is 3000 m or less;
- c) when requested by pilot;
- d) at any other time when their use, based on weather conditions, is considered desirable for the safety of air traffic.

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

7.15.1.3 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 so requested by an aircraft, further adjustment of the intensity shall be made whenever possible.

7.15.2 Approach lighting

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

7.15.2.1 Approach lighting shall also be operated:

- a) during the time from sunset to sun rise;
- b) during time from sunrise to sunset when visibility is 3000 m or less;
- c) when requested by pilot;
- d) at any other time when their use, based on weather conditions, is considered desirable for the safety of air traffic;
- e) when the associated runway lighting is operated.



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

7.15.3 Runway lighting

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

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

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

- a) 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;
- b) at aerodromes without air traffic control service or without centrally controlled lights, the lights of one runway shall remain lighted until such time as would normally be required to reactivate the lights in the likelihood of the departing aircraft returning for an emergency landing, and in any case not less than fifteen minutes after take-off.

7.15.4 Stopway lighting

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

7.15.5 Taxiway lighting

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

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.

7.15.6 Stop bars

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

Note.— 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.

7.15.7 Obstacle lighting

7.15.7.1 Obstacle lighting associated with the approach to or departure from a runway or channel, where the obstacle does not project through the inner horizontal surface should be turned off and on simultaneously with the runway lights.

7.15.7.2 Un -serviceability lights may not be turned off as permitted under 7.15.1.2 while the aerodrome is open.

7.15.8 Monitoring of visual aids

7.15.8.1 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.

7.15.8.2 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.

7.15.8.3 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.

7.16 WIND SHEAR ADVISORIES

Note: Wind shear is a sustained change in the wind velocity along the aircraft flight path, which occurs significantly faster than the aircraft can accelerate or decelerate. It can occur at any level, but it is 'low level wind shear', 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.

7.16.1 Whenever a pilot reports wind shear conditions to ATC, the information shall be passed to subsequent arriving and departing aircraft until either confirmation is received that the condition no longer exists or wind shear information has been included in ATIS and flight crew of the concerned aircraft reports the receipt of the appropriate ATIS designator.

Phraseology:

*WIND SHEAR WARNING ARRIVING (or DEPARTING)
(type of aircraft) REPORTED LIGHT (or MEDIUM or
HEAVY) WIND SHEAR*

7.16.2 Reports on wind shear from aircraft should be passed to Meteorological office.