CIVIL AVIATION PUBLICATION

AGA 09

LOW VISIBILITY OPERATIONS

INDEX

This Page Intentionally Left Blank

AGA 09

LOW VISIBILITY OPERATIONS

INDEX

This Page Intentionally Left Blank

CHAPTER 1

GENERAL

1.1 LOW VISIBILITY OPERATIONS (LVOs)

Aircraft operations at aerodromes during reduced visibility or low cloud conditions present additional hazards to aircraft and to other aerodrome users. As visibility reduces, the ability of ATC, pilots, vehicle drivers and other personnel to identify hazards and to take remedial action in a timely manner becomes limited.

In conditions of low cloud, the time available for the pilot of an approaching aircraft to visually assess the aerodrome environment is reduced. Low Visibility Operations (LVOs) is a general term used for airside operations in conditions of reduced visibility or low cloud conditions and consists of low visibility safeguarding and low visibility procedures (LVPs).

Low visibility safeguarding is the process carried out which prepares the aerodrome for LVPs. LVPs are the actions carried out by ATC and the Aerodrome Operator in respect of aircraft operations and vehicle movements. This may include restricted access to the manoeuvring area, the protection of the ILS critical and sensitive areas and a reduced aircraft movement rate.

1.2 APPLICABILITY

This CAP applies to all aerodromes and heliports that are required to be certified or licensed under CAR AGA 1, 2 and 3.

1.3 REFERENCES

- CAR AGA 1, 2 and 3
- Annex 14 Volume I – Aerodromes (Eighth Edition July 2018)
- Annex 14 Volume II – Heliports (Fourth Edition July 2013)
- CAR DEF – Definitions

This Page Intentionally Left Blank

CHAPTER 2

REQUIREMENTS

2.1 TYPES OF OPERATIONS

LVPs are required for the following types of operation:

- Category II
- Other than standard Category II
- Category III
- Take-offs below 550 m RVR (Runway Visual Range)

This Page Intentionally Left Blank

CHAPTER 3

LOW VISIBILITY SAFEGUARDING

3.1 GENERAL

The point at which LVPs are implemented will vary from one aerodrome to another and will depend on local conditions and facilities available. However, a period of time is required to prepare the aerodrome and, in particular, the manoeuvring area, in readiness for LVPs.

The safeguarding measures should ensure that at the point when LVPs are declared to be in force, all actions to protect aircraft operations have been put in place. When the visibility deteriorates to approximately 1000 m RVR and is expected to fall further below 550 m RVR, or the cloud ceiling reduces to 300 ft and is expected to fall further below 200 ft, safeguarding should be initiated.

The withdrawal of vehicles and personnel involved in non-essential activities on the manoeuvring area should be initiated. Any temporary work in progress on the movement area should normally cease and the work areas should be vacated and returned to operational condition or clearly marked/lit and notified as unavailable for use. Routine maintenance on visual and non-visual aids should be suspended and the ILS localiser and glide path critical and sensitive areas should be cleared of all traffic.

Aerodrome Operators, in conjunction with ATC, should develop actions that ensure that, in good time prior to the introduction of LVPs, all airlines and other organisations with manoeuvring area access are notified. This is particularly important where companies exercise control over their own apron areas and maintenance facilities adjacent to the manoeuvring area. Particular attention should be given to the protection of the runway and radio navigational aids.

Access to the manoeuvring area should be restricted to essential operational safety vehicles and personnel only. Where it is not practicable to secure the area in the manner recommended, the Aerodrome Operator should satisfy the CAA-B as to the security of the aerodrome’s operations in low visibility conditions.

This Page Intentionally Left Blank

CHAPTER 4

AERODROME OPERATOR RESPONSIBILITIES

4.1 GENERAL

It is the responsibility of the Aerodrome Operator to develop and maintain the LVPs used at their aerodrome. Whilst ATC are responsible for advising pilots of the status of LVPs at an aerodrome, it is the responsibility of the Aerodrome Operator to ensure that all measures required to protect aircraft operations in poor weather conditions are in place prior to their use.

It is essential that the Aerodrome Operator verifies to ATC that all safeguarding measures are in place before LVPs are declared to be in force by ATC. Similarly, LVPs should be declared as cancelled before the Aerodrome Operator withdraws any measures.

Note: It should be remembered that aircraft established on an approach may have commenced that approach believing that LVPs are in force. All measures taken to protect the approach aids and runway should remain in place until all such aircraft have completed their approach.

At aerodromes that support operations listed in Chapter 2 and in conditions that preclude Category I operations, under no circumstances should LVPs be declared to be in force if the appropriate safeguards for these operations are not fully in place to protect the landing aids and runway.

As the RVR deteriorates to lower than 550 m, or the cloud ceiling reduces below 200 ft, low visibility procedures should be fully implemented. (The cloud ceiling criteria of below 200 ft is not required for aerodromes conducting take-offs below 550 m RVR but limited to Category I operations only, unless required for obstacle avoidance). The withdrawal of non-essential vehicles and personnel from the manoeuvring area should be completed. Where possible free ranging should have ceased and all activities on the manoeuvring area should be under the direct control of ATC. It is normal practice for ATC to apply increased spacing between aircraft to allow additional time for the preceding arriving aircraft to vacate the Localiser Sensitive Area (LSA) or the previous departing aircraft to have overflown the localiser. Additionally, interference with the localiser and glide path signal can cause a deviation to an aircraft's flight path requiring a go-around to be flown.

The point at which LVPs are to be implemented should be clearly defined in terms of a specific RVR, expressed in metres, or cloud ceiling measurement, expressed as a height in feet, and should be promulgated in relevant notices and documentation to all those persons involved.

In order that flying operations may be safely conducted at aerodromes in low visibility conditions, Aerodrome Operators, in consultation with ATC, should determine the movement rate that they wish to sustain and develop LVPs that will support the desired movement rate.

The aircraft movement rate will be dependent on the aerodrome infrastructure including the ground markings and lighting.

LVPs will vary with each aerodrome and are subject to acceptance by the CAA-B prior to inclusion in the Aerodrome Manual and the Local Air Traffic Services Instructions (LATSi) and their subsequent implementation.

In order to continue unrestricted operations for as long as possible while weather conditions deteriorate, many of the low visibility safeguarding measures should be implemented in good time and in certain circumstances before they are absolutely necessary. The reduction in the aircraft movement rate, which is activated by ATC, should be implemented only when the weather conditions demand it.

ICAO Annex 14 currently recommends the provision of Surface Movement Radar (SMR) at aerodromes where operations in RVR less than 400 m take place. However, unless the CAA-B has approved specific procedures, SMR is a monitoring tool only; SMR enhances existing ATC procedures and its use should not be regarded as the prime method by which collision avoidance can be affected.

CHAPTER 5

VISIBILITY CONDITIONS AND ACTIONS

5.1 VISIBILITY CONDITION 1

Visibility sufficient for the pilot to taxi and to avoid collision with other traffic on taxiways and at intersections by visual reference, and for ATC to exercise control over all traffic on the basis of visual surveillance. No additional requirements for the protection of ground operations by aircraft are required during visibility condition 1.

5.2 VISIBILITY CONDITION 2

Visibility sufficient for a pilot to taxi and to avoid collision with other traffic on taxiways and at intersections by visual reference, but insufficient for ATC to exercise control over all traffic on the basis of visual surveillance.

Actions required in visibility condition 2 are dependent on the dimensions of the manoeuvring area and the position of the control tower. Procedures and visual aids will allow the pilot to determine his position and follow the required route.

In the lower ranges of visibility condition 2, the necessary measures might limit the movement rate unless some additional aids are available, such as SMGCS, which may enable a greater movement rate to be achieved safely. Adequate safeguards against runway incursions should be in place, such as limited taxi routeing, surface movement radar and stop-bars or physical barriers at runway access points.

5.3 VISIBILITY CONDITION 3

Visibility sufficient for the pilot to taxi but insufficient for the pilot to avoid collision with other traffic on taxiways and at intersections by visual reference, and insufficient for ATC to exercise control over all traffic on the basis of visual surveillance. For taxiing, this is normally taken as visibilities equivalent to an RVR of less than 400 m but more than 75 m.

In such visibility conditions it is likely further ATC measures, such as block control, to assist aircraft and vehicle movement including RFF vehicles, should be considered.

5.4 VISIBILITY CONDITION 4

Visibility insufficient for the pilot to taxi by visual guidance only. This is normally taken as an RVR of 75 m or less. During visibility conditions 3 and 4, Advanced Surface Movement Guidance Control Systems (A-SMGCS), where available, may be used to determine the position of aircraft and vehicles on the manoeuvring area.

5.5 OPERATIONS

Pilots will expect a precision instrument runway to be fully safeguarded and available for the operations listed in Chapter 2, and any guided take-off, if LVPs are declared to be in force by ATC at the aerodrome.

The Aerodrome Operator, in co-operation with ATC and other agencies involved in LVP operations, should regularly review the effectiveness of LVPs. Any need for change should be agreed with the CAA-B prior to inclusion in the Aerodrome Manual and the LATSi and subsequent implementation.

LVP table-top exercises should be completed on a regular basis to ensure all stakeholders are familiar with the procedures. They should also be considered for any forthcoming operational changes and development works that may significantly impact on LVPs.

CAR OPS 1, Chapter 5 may allow approved operators to carry out other than standard category II approach operations if certain conditions are met. The actual RVR limit will depend on a number of factors including the:

(a) Lowest decision height available

(b) Level of aeronautical ground lighting available including approach lighting

(c) ILS specification.

Aerodromes which are suitable for lower than standard category I operations should ensure that their LVPs are suitable for the lowest RVR limit possible.

CAR OPS 1, Chapter 5 may allow approved operators to carry out specified approach operations utilising Enhanced Vision Systems (EVS) which reduce the traditional RVR minima required. Aerodromes that are suitable for the specified approach operations should review their LVPs to ensure they are adequate for aircraft and vehicle operations in such visibilities.