

	<p style="text-align: center;"><b>Aerodrome Licensing Memorandum (ALM)</b></p>	<p style="text-align: center;"><b>ALM.</b></p> <p style="text-align: center;">No: 003</p> <p style="text-align: center;">February 2014</p>
<p><b>Title</b></p>	<p style="text-align: center;"><b>LICENSING REQUIREMENTS FOR PRIVATE AERODROMES</b></p>	

**IRISH AVIATION AUTHORITY**

**LICENSING REQUIREMENTS FOR  
PRIVATE AERODROMES**

**AERODROME LICENSING MEMORANDUM  
A.L.M. 003**

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**LICENSING REQUIREMENTS FOR PRIVATE AERODROMES.**

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## 1 INTRODUCTION.

- 1.1 The purpose of this part of the document is to give guidance to applicants and Licensees in relation to the safety requirements and procedures for the issue and renewal of, or variation to, a licence for an aerodrome licensed for private use.
- 1.2 The Irish Aviation Authority (Aerodrome and Visual Ground Aids) Order, S.I. No 355 of 2008 establishes the basis for aerodrome licensing. In general a licence for private use is required if flying training is undertaken and a licence for public use is required for public transport operations.
- 1.3 With a few exceptions the length of runways at aerodromes licensed for private use in the State do not exceed 800 m and operations are restricted to VFR daylight only.

For the purpose of this document therefore, the following runway classification and ICAO aerodrome reference codes identify a typical aerodrome licensed for private use.

Runway classification is:	non-instrument, daylight only.
Aerodrome reference code number is 1:	aerodrome reference field length less than 800 m.
Aerodrome reference code letter is A:	wing span up to but not including 15 m; and outer main gear wheel span up to but not including 4.5m.

This document (ALM003) is an extract from IAA publication, Aerodrome Licensing Manual ALM002 and comprises the licensing requirements for aerodromes conforming to the above description. It is published separately to facilitate the general aviation sector in the State.

- 1.4 The licensing requirements reflect the Standards and Recommended Practices of Annex 14 to the Convention on International Civil Aviation and form the basis for a judgement on the potential suitability of the aerodrome to be licensed, taking account of the scale and scope of the flying activity which is to take place there. The document also describes the Authority's aerodrome licensing requirements relating to operational management and the planning of aerodrome development. However, no matter how detailed the requirements may be, they invariably will not cover all possible risks or all circumstances. Therefore, on occasions, the need may arise for the Authority to impose additional requirements.
- 1.5 To identify the relative status of the requirements the word "***shall***" when printed in bold italic, signifies those requirements which are necessary for

- safety. This does not mean that compliance with a requirement when the word “should” is used is optional but rather that, where insurmountable difficulties exist the Authority may accept an alternative means of compliance provided that an acceptable Safety Assessment is received from the applicant or Licensee.
- 1.6 Any limiting conditions or mitigating measures described in the Safety Assessment that compensate for any increased risk must take account of the anticipated flying activity and any other non-compliances from the licensing requirements that may already exist. Thereafter the Licensee and the Authority will review periodically the implications of non-compliance with the licensing requirements and associated conditions or mitigating measures, in particular when any significant change in activity or aerodrome development is proposed.
- 1.7 Significant changes in the nature and the scale of flying activity at a licensed aerodrome *shall* be notified to the Authority as soon as practicable. Where development work, including changes to the physical characteristics and visual aids, is proposed, the Authority *shall* be consulted beforehand in accordance with the conditions of the licence.
- 1.8 The Authority requires each applicant for an aerodrome licenced for public use to submit an aerodrome manual for that aerodrome. The manual shall contain all information and instructions as may be necessary to enable the aerodrome operating staff to safely perform their duties. Information regarding the preparation and content of the manual is provided in Section 2 of this document.
- 1.9 In addition to the physical design and operating standards of aerodromes, the Authority requires the adoption by Licensees as part of the Aerodrome Manual of a basic Safety Management System. It should describe the safety policy of the Aerodrome Licensee, its application and operational management.
- 1.10 The Authority may wish to supplement periodically the guidance or requirements given in this document. This will be done in the form of either “Aerodrome Licensing Memorandum” or Aeronautical Notices (T series) - “Notices to Aerodrome Licence Holders”.
- 1.11 In Ireland, an aerodrome licensed by the Authority for aeroplane operations is considered to be certificated in accordance with the requirements of Annex 14, Volume 1, Section 1.4.

## **2 THE AERODROME MANUAL**

### **2.1 Introduction.**

2.1.1 The Irish Aviation Authority requires the Licensee of every licensed aerodrome to prepare and submit an Aerodrome Manual for that aerodrome.

2.1.2 The Aerodrome Licensee *shall*:

- (a) ensure that the Aerodrome Manual contains all the information, procedures and instructions that are necessary to enable the operating staff to perform their duties in such a manner that will ensure the aerodrome is safe for use by aircraft;
- (b) furnish to the Authority any amendments or additions to the Manual;
- (c) make such amendments or additions to the Manual as the Authority may require, and
- (d) ensure that each member of the aerodrome operating staff has an up-to-date copy of the Aerodrome Manual, or a copy of the parts of the Manual relevant to their duties.

### **2.2 Purpose and scope of the manual.**

2.2.1 An efficient management structure and a systematic approach to aerodrome operations are essential. The Aerodrome Manual should contain all relevant information to describe this structure satisfactorily. It is the means by which all aerodrome operating staff are fully informed as to their duties and responsibilities with regard to safety. It should describe the aerodrome services and facilities, the competence required of its staff, all operating procedures and any restrictions on aerodrome availability.

2.2.2 Accountability for safety must start at the top of an organisation. One of the key elements in establishing safe working practices for all staff is to understand the safety aims of the organisation, the chain of command and their own responsibilities and accountabilities. To the reader or user of the manual there should never be any doubt about who is responsible, who has the authority, who has the expertise and who actually carries out the tasks described in any section.

2.2.3 The Authority will expect the Manual to reflect accurately the aerodrome's safety management system and safety culture. It will need to show how the Aerodrome Licensee intends to measure its performance against safety targets and objectives. The reader of a Manual should be given a clear statement of how safety is developed, managed and maintained on the aerodrome.

## **2.3 Form and amendment of the Manual.**

- 2.3.1 For aerodromes licensed for private use the Manual can be both simple and brief as long as it covers procedures essential for the day-to-day operations and contains the essential elements that define a safety management system.
- 2.3.2 The numbering of pages and paragraphs should be orderly and systematic to facilitate reference. The standard of printing, duplication and binding should allow the manual to be read without difficulty and ensure it remains intact and legible during normal use.
- 2.3.3 Each copy of the Manual should be numbered and a list of holders maintained by the person responsible for the issue of amendments. In the front of each volume should be an amendment page available for recording the amendment numbers, date of incorporation, signature of the person amending and the page of the paragraph affected.
- 2.3.4 Amendments to the Manual will be needed either because the document requires to be brought up to date or in response to a request by the Authority. Any amendments or additions *shall* be furnished to the Authority by the Aerodrome Licensee before or immediately after they come into effect.

## **2.4 Contents of the Aerodrome Manual.**

- 2.4.1 The aerodrome manual shall contain all such information and instructions as may be necessary to enable aerodrome operating staff to safely perform their duties. In particular, information and instructions relating to the matters specified in the schedule to Notice to Aerodrome Licence Holders, T.04 shall be included.

### **3 AERODROME DATA**

#### **3.1 Introduction.**

- 3.1.1 This section contains requirements for the determination and reporting of aerodrome related aeronautical data.
- 3.1.2 The Aerodrome Licensee should ensure that all information relating to the aerodrome and its facilities which is significant for the conduct of flights to and from the aerodrome is reported to the Authority and is available to users of the aerodrome.

Note: See IAA Publication, A.L.M. 002, Aerodrome Licensing Manual, Chapter 1, for specifications for the determination of aerodrome data.

#### **3.2 Aerodrome data to be determined and reported.**

- 3.2.1 Aerodrome reference point.

An aerodrome reference point *shall* be established for an aerodrome. It is usually the mid point of the main runway.

- 3.2.2 Aerodrome elevation.

The aerodrome elevation at the aerodrome reference point *shall* be determined and reported.

- 3.2.3 Aerodrome dimensions and related information.

For each facility provided at an aerodrome the following data *shall* be determined and reported:

- (a) Runway - true bearing, designation number, length, width, slope, surface type, type of runway;
- (b) Runway strip - length, width, surface type;
- (c) Taxiway - designation, width, surface type;
- (d) Taxiway strip - width
- (e) Apron - surface type, area;
- (f) Air traffic services available;
- (g) The geographical co-ordinates and the top elevation of obstacles.

### 3.2.4 Condition of the movement area and related facilities.

Information on the condition of the movement area and the operational status of related facilities *shall* be provided to the Authority and similar information of operational significance *shall* be provided to arriving and departing aircraft and also to the appropriate air traffic service unit, to enable that unit to provide the necessary information to arriving and departing aircraft. The information *shall* be kept up to date and reported without delay particularly in respect of the following:

- (a) construction or maintenance work;
- (b) surface irregularities, contaminants, standing water, ice or snow on paved surfaces;
- (c) long wet grass, soft ground, standing water, ice or snow on unpaved surfaces.

In accordance with the conditions of the licence any material change in the surface of the landing area or any changes in the obstacle characteristics of the approaches, take-off paths or circuit area which render the aerodrome hazardous *shall* be notified immediately to the Authority and operations at the aerodrome restricted or suspended.

## 3.3 Aerodrome safeguarding.

### 3.3.1 Introduction.

In Notice to Aerodrome Licence Holders (T.02) issued under the Irish Aviation Authority (Aerodromes and Visual Ground Aids) Order the Authority has directed that the Licensee of an aerodrome licensed for public use shall prepare 'Aerodrome Safeguarding Maps'. It is recommended that Licensees of aerodromes licensed for private use lodge a Safeguarding map, based on the requirements described hereunder, with the Local Authority(s) responsible for dealing with planning applications in the vicinity of the aerodrome concerned.

It is recommended that the Aerodrome Licensee monitors the relevant Local Authority planning lists to identify all proposed objects within a radial distance of 3 km from the aerodrome where the potential exists for conflict with the obstacle limitation requirements shown in Section 5 and the requirements described hereunder. The Aerodrome Licensee should make a submission to the Local Authority in relation to proposed developments which may adversely affect the safety or efficiency of operations, within the timescale allowed for observations on planning applications.

### 3.3.2 The aerodrome safeguarding map.

The safeguarding map should include, as appropriate;

- (a) a contoured chart of the following obstacle limitation surfaces:
  - conical surface,
  - inner horizontal surface,
  - approach surface,
  - transitional surfaces and
  - a take-off climb surface for a runway meant for take-off;
- (b) the location and height of all existing objects or terrain which infringe the obstacle limitation surfaces; and
- (c) a bird hazard area depicted by an area within a radial distance of 8 km from each active runway.

Notes: The safeguarding map should be prepared on the basis of any potential future development at the aerodrome. Advice is available from the Authority in relation to the preparation of a safeguarding map.

### 3.3.3 Sample statement to local planning authority.

Note: A statement based on the following sample statement should accompany or be part of the safeguarding map.

Proposed new objects, extensions of existing objects or any other developments in the vicinity of \_\_\_\_\_ aerodrome and identified as falling into one or more of the following categories may have operational implications for the aerodrome. Details of these proposals should therefore be referred to the Licensee of the aerodrome for comment.

#### Category 1

Proposed developments or the use of cranes during construction that may penetrate any of the obstacle limitation surfaces shown on the safeguarding map.

#### Category 2

Proposed developments within the bird hazard area, which may significantly increase bird activity, such as a landfill site, reservoir, sewage disposal works, nature reserve, golf course or bird sanctuary.

#### Category 3

Proposed developments that may cause unacceptable wind turbulence due to their scale and location.

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## 4 AERODROME PHYSICAL CHARACTERISTICS

**The following requirements are based on the assumption that the runway length is less than 800m i.e. ICAO Code 1. If a longer runway is being provided then the Physical Characteristics specified in ALM 002 will apply.**

### 4.1 Runways.

#### 4.1.1 Siting and orientation of runways.

Many factors may influence the determination of the siting and orientation of runways. Items that most frequently require study are:

(a) meteorological conditions:

frequency of cross-wind components in excess of an operational limit of 10 Kt;  
strength of wind associated with limiting crosswind;  
prevalence and nature of gusts and turbulence; and  
frequency of low visibility and/or low cloud and accompanying wind speed and direction.

(b) topography of the aerodrome site, its approaches and surroundings particularly:

surface conditions;  
obstacle limitation surfaces;  
current and future land use;  
current and future runway lengths to be provided; and  
possibility of installing suitable non-visual and visual aids for approach and landing.

(c) air traffic in the vicinity of the aerodrome, particularly:

proximity of other aerodromes or ATS routes;  
traffic density.

#### 4.1.2 Actual length of runways.

The actual length to be provided for a runway should be adequate to meet the operational requirements of the aeroplanes for which the runway is intended and should be not less than the longest length determined by applying the corrections for local conditions to the operations and performance characteristics of the relevant aeroplanes.

#### 4.1.3 Width of runways.

Runways should have a width not less than 18 m.

#### 4.1.4 Slopes on runways.

Along no portion of a runway should the longitudinal slope exceed 2%.

#### 4.1.5 Strength of runways.

A runway should be capable of withstanding the traffic of aeroplanes the runway is intended to serve.

The bearing strength of unpaved surfaces cannot be usefully classified. The basic material, its degree of compaction, the quality of the sub-grade and the drainage characteristics are samples of factors that can cause considerable daily variation in the bearing strength.

After prolonged rain the condition of an unpaved surface may become such that either further use by aircraft would result in serious damage to the surface or due to the difficulty in assessing bearing strength the surface can no longer be considered suitable for take-off and landing. Where such conditions are likely to occur close monitoring of the surface should be undertaken and if in the judgement of the Aerodrome Licensee such action appears necessary the use of the aerodrome should be restricted or the aerodrome should be closed.

Note: See Aerodrome Design Manual Part 3 (Doc 9157) for additional technical information.

#### 4.1.6 Surface of runways.

The surface of a runway *shall* be constructed without irregularities that would result in the loss of friction characteristics or otherwise adversely affect the take-off or landing of an aeroplane.

Aircraft operation can be adversely affected when the surface of the movement area, paved or unpaved, is contaminated by snow, slush, water, mud, oil or rubber deposits. In conjunction with the specifications for longitudinal and transverse slopes of runways, taxiways and strips, the type of construction and surface characteristics of the runway itself are probably the most important factors in alleviating the operational effects of contaminants.

The aim should be to provide in the first instance a runway with an acceptably regular clean surface which will give satisfactory braking in wet conditions, and thereafter to ensure by periodic checking and maintenance that the surface qualities do not deteriorate below an acceptable level.

Paved surfaces.

Technical details of various paved runway surfaces that have been shown to provide the required good wet runway braking action are described in Annex 14, the Airport Services Manual, Part 2 (Doc 9137) and Aerodrome Design Manual, Part 3 (Doc 9157).

Maintenance action should be taken to remove surface contaminants and correct any surface irregularities, particularly on a runway where the presence of significant patches of standing water may seriously impair braking action.

#### 4.1.7 Unpaved surfaces.

Natural surfaces of unpaved runways should be prepared or treated to remove irregularities that may adversely affect the directional control, braking or riding characteristics of an aeroplane. There should be no irregularities that would allow the collection of surface water or the discontinuity of bearing strength in wet conditions.

A simple method of assessing the suitability of a natural surface is to drive over it in a vehicle at 50 kph. If the surface is acceptably even, this test should be accomplished without discomfort to the vehicle occupants.

Within the manoeuvring area on a grass aerodrome, the length of grass should not exceed 10 cm on a runway or taxiway.

Surface conditions are particularly important for light aeroplanes. Long wet grass, snow or soft ground can add 25% to the take-off run and may even prevent the aircraft ever reaching take-off speed and may also lead to loss of control during the touchdown and landing roll.

## 4.2 Runway strips.

### 4.2.1 Length of runway strips.

A runway strip *shall* be provided and *shall* extend before the threshold and beyond the end of the runway for a distance of least 30m.

### 4.2.2 Width of runway strips.

The width of a strip should extend on each side of the centre line of the runway for a distance of at least 30 m.

### 4.2.3 Grading of runway strips.

The runway strip should be so prepared or constructed as to minimise hazards arising from the differences in load bearing capacity to aeroplanes that the runway is intended to serve in the event of an aeroplane running off the runway and be capable of supporting unrestricted access for emergency service vehicles.

Drainage channels and other design features should not constitute hazards to aeroplanes. Constructions such as plinths, edges of paving, etc. should be so constructed as to avoid presenting a buried vertical face to aircraft wheels in soft ground conditions in any direction that an aeroplane is likely to approach.

Agricultural crops other than grass should not be grown within the runway strip since they may provide a bird attractive environment or a fire hazard. The length of grass within a runway strip should not exceed 20cm in height.

An object situated on the runway strip that may endanger aeroplanes should be regarded as an obstacle and should, as far as practicable, be removed.

No mobile object *shall* be permitted on the runway strip during the use of the runway for landing or taking-off.

#### 4.2.4 Slopes on runway strips.

The surface of that portion of a strip that abuts a runway *shall* be flush with the runway.

The longitudinal slope along the strip should not exceed 2%. Slope changes should be as gradual as practicable and abrupt changes or sudden reversals of slopes avoided.

Transverse slopes should be adequate to prevent the accumulation of water on the surface.

#### 4.2.5 Ends of runway strips.

The terrain immediately beyond the end of the strip, whether within the control of the Aerodrome Licensee or not, should, if possible be improved by relatively simple measures such as levelling, the weakening of a fence and the piping or filling of a ditch.

### 4.3 Runway End Safety Areas.

4.3.1 A runway end safety area should be provided at each end of a runway strip.

4.3.2 A runway end safety area should, as far as practicable, extend from the end of the runway strip to a distance of at least 30 metres.

4.3.3 The width of a runway end safety area shall be at least twice that of the associated runway.

4.3.4 An object situated on a runway end safety area which may endanger aeroplanes should be regarded as an obstacle and should, as far as practicable, be removed.

## **4.4 Taxiways.**

### **4.4.1 General.**

Taxiways should be provided when they are necessary for the safe and expeditious surface movement of aircraft. Where the end of a runway is not served by a taxiway it may be necessary to provide a turning area.

### **4.4.2 Taxiway widths.**

A straight portion of a taxiway should have a width not less than 7.5 m.

### **4.4.3 Taxiway minimum separation distances.**

Distance between taxiway centre line and runway centre line should not be less than 37.5 m. (This separation distance assumes that the runway and taxiway may be used simultaneously.)

Distance between a Taxiway centre line or apron taxiway centre line to an object should not be less than 16.25 m.

### **4.4.4 Slopes on taxiways.**

The longitudinal slope on a taxiway should not exceed 3%.

The transverse slopes of a taxiway should be sufficient to prevent the accumulation of water on the surface of the taxiway, but should not exceed 2%.

Where a change in slope on a taxiway cannot be avoided, the change should be such that from any point 1.5 m above the taxiway, it will be possible to see the whole surface of the taxiway for a distance of at least 150 m from that point.

### **4.4.5 Strength of taxiways.**

The strength of a taxiway should be at least equal to that of the runway it serves.

### **4.4.6 Surface of taxiways.**

The surface of a taxiway should not have irregularities that cause damage to aeroplane structures and the surface of paved taxiway should be so constructed as to provide good friction characteristics when the taxiway is wet.

**4.5 Taxiway strips.**

- 4.5.1 A taxiway strip should extend symmetrically on each side of the taxiway centreline throughout the length of the taxiway to at least 16.25 m from the centre line.
- 4.5.2 The taxiway strip should provide an area clear of objects that may endanger taxiing aeroplanes.
- 4.5.3 The centre portion of the taxiway strip should provide a graded area to a distance of at least 11 m from the centre line of the taxiway.
- 4.5.4 On taxiway curves, junctions and intersections a corresponding increase should be made in the width of the taxiway strip and graded area.
- 4.5.5 The surface of the strip should be flush at the edge of the taxiway and grass should not exceed 20cm in height.

**4.6 Aprons.**

- 4.6.1 The total apron should be adequate to permit expeditious handling of the aerodrome traffic for its maximum anticipated density.
- 4.6.2 Each part of the apron should be capable of withstanding the traffic of the aircraft it is intended to serve.
- 4.6.3 Slopes on an apron, including those on an aircraft stand should be sufficient to prevent the accumulation of water on the surface of the apron but should be kept as level as drainage conditions permit.
- 4.6.4 Aircraft will usually taxi and park under their own power. In order to do this safely the taxi and parking areas should allow for at least 3 m separation between aircraft extremities and between aircraft extremities and obstacles such as buildings, vehicles, fences, etc.

## 5 THE ASSESSMENT AND TREATMENT OF OBSTACLES

### 5.1 Introduction.

5.1.1 The effective use of an aerodrome may be considerably influenced by the natural features and man made constructions inside and outside its boundary. These may result in limitations on the distances available for take-off and landing. Therefore, certain areas of the local airspace *shall* be regarded as integral parts of the aerodrome environment. The degree of freedom from obstacles in these areas is important to the safe and efficient use of the aerodrome as are the more obvious physical requirements of the runways and their associated strips.

5.1.2 The method of assessing the significance of any proposed object within the aerodrome boundary or in the vicinity of an aerodrome is to define obstacle limitation surfaces particular to a runway and its intended use. In ideal circumstances all surfaces will be free from obstacles but when a surface is infringed, any safety measures required by the Authority will have regard to:

- (a) the nature of the obstacle and its location relative to the surface origin, to the extended centre line of the runway or normal approach and departure paths and to existing obstacles;
- (b) the amount by which the surface is infringed;
- (c) the gradient presented by the obstacle to the surface origin.

Note: The surfaces described in this section refer to a code 1 non instrument runway only i.e. less than 800 metres runway length. For higher runway codes, refer to ALM 002, Aerodrome Licensing Manual.

### 5.2 Obstacle limitation surfaces.

5.2.1 General.

The following obstacle limitation surfaces *shall* be established:

inner horizontal surface,  
conical surface,  
approach and take off surface,  
transitional surfaces.

5.2.2 Inner horizontal surface.

An inner horizontal surface is a surface located in a horizontal plane above an aerodrome and its environs. The radius or outer limits of the inner horizontal surface *shall* be measured using a circular arc, radius 2 000 m centred on the aerodrome reference point.

The height of the inner horizontal surface *shall* be 45 m above the lower runway threshold.

### 5.2.3 Conical surface.

A conical surface is a surface sloping upwards and outwards from the periphery of the inner horizontal surface.

The limits of the conical surface *shall* comprise:

- (a) a lower edge coincident with the periphery of the inner horizontal surface; and
- (b) an upper edge located 35 m above the inner horizontal surface.

The slope of the conical surface *shall* be measured in the vertical plane perpendicular to the periphery of the inner horizontal surface. The slope is 5%.

### 5.2.4 Approach and take-off surface.

The approach and take off surfaces are inclined planes preceding the threshold and beyond the end of the runway.

The limits of the approach and take off surfaces *shall* comprise:

- (a) an inner edge of 60 m, horizontal and perpendicular to the extended centre line of the runway and located at 30 m before the threshold and beyond the end of the runway;
- (b) two sides originating at the ends of the inner edge and diverging uniformly at a rate of 10% from the extended centre line of the runway; and
- (c) an outer edge of 380 m parallel to the inner edge. The overall length of the surface *shall* be 1,600 m.

The surface *shall* have a slope of 5%.

Note: The elevation of the inner edge *shall* be equal to the elevation of the mid-point of the threshold.

### 5.2.5 Transitional surfaces.

A transitional surface is a complex surface along the side of the strip and part of the side of the approach surface that slopes upwards and outwards to the inner horizontal surface.

The limits of a transitional surface *shall* comprise:

- (a) a lower edge beginning at the intersection of the side of the approach surface with the inner horizontal surface and extending down the side of the approach surface to the inner edge of the approach surface and from there along the length of the strip parallel to the runway centre line; and

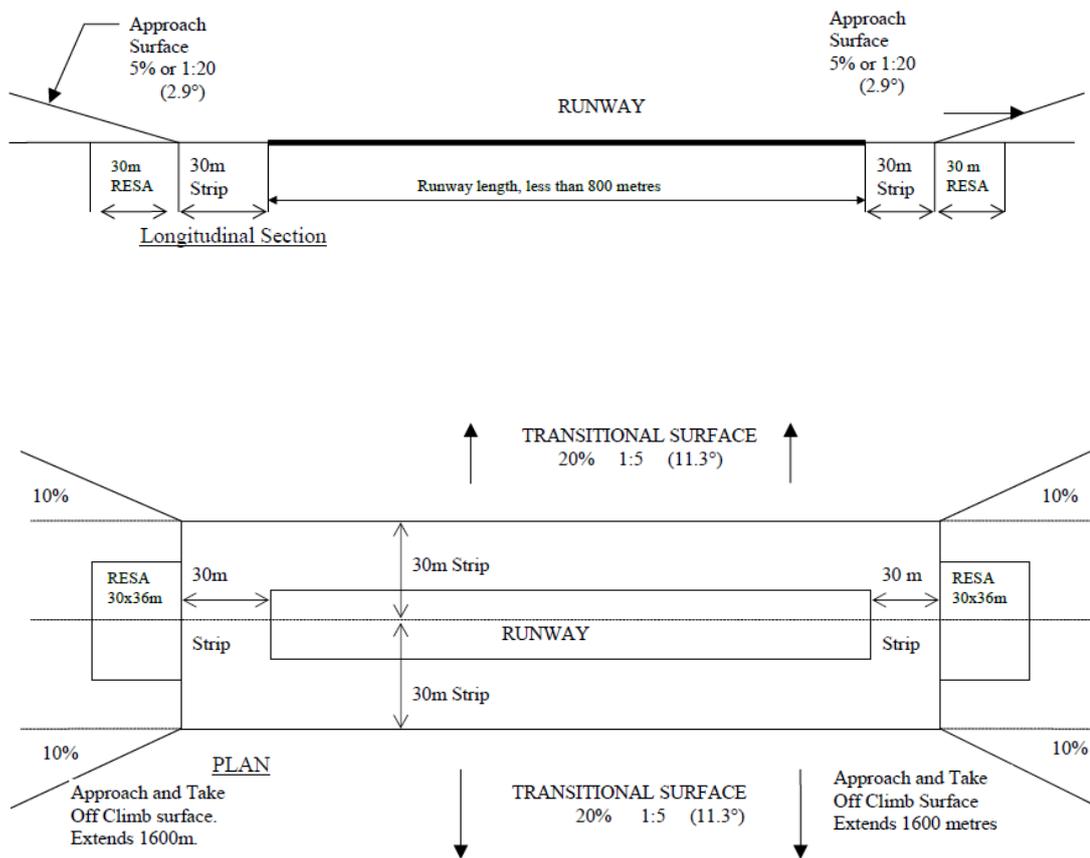
- (b) an upper edge located in the plane of the inner horizontal surface.

The elevation of a point on the lower edge *shall* be:

- (a) along the side of the approach surface, equal to the elevation of the approach surface at that point; and
- (b) along the strip, equal to the elevation of the nearest point on the centre line of the runway or its extension.

Note: As a result of (b) the transitional surface along the strip will be curved if the runway gradient is undulating or a plane if the runway gradient is constant. The intersection of the transitional surface with the inner horizontal surface will also be curved or a straight line depending on the runway profile.

The slope of a transitional surface measured in a vertical plane at right angles to the centre line of the runway is 20%.



**Figure 5.1 Obstacle Limitation Surfaces for a runway less than 800 metres**

### **5.3 Obstacle limitation requirements.**

#### **5.3.1 Objects that penetrate the obstacle limitation surfaces.**

New objects or extensions of existing objects *shall* not be permitted above an approach or transitional surface.

New objects or extensions of existing objects should not be permitted above the conical surface or inner horizontal surface except when, after a Safety Assessment it is determined that the object would not adversely affect the safety or significantly affect the regularity of operations of aeroplanes.

Existing objects above any of the surfaces required by paragraph 5.2.1 should as far as practicable be removed except when, after preparing a Safety Assessment it is determined that the object would not adversely affect the safety or significantly affect the regularity of operations of aeroplanes.

In considering proposed developments account should be taken of the possible future developments at the aerodrome and consequent requirements for more stringent obstacle limitation surfaces.

#### **5.3.2 Objects that do not penetrate the obstacle limitation surfaces.**

Anything that may, in the opinion of the Authority or the Aerodrome Licensee, endanger aeroplanes on the movement area or in the air should be regarded as an obstacle and preferably removed.

Note: In certain circumstances, objects that do not project above any of the obstacle limitation surfaces may constitute a hazard to aeroplanes as, for example, where there are one or more isolated objects in the vicinity of an aerodrome.

It is particularly desirable to review carefully any proposal to erect high masts or other skeletal structures in areas that would otherwise be used by aircraft on wide visual circuits, or arrival routes towards the aerodrome or circuit, or on departure or missed approach climb paths. Avoidance by marking cannot always be relied upon in view of the relatively inconspicuous character of these structures.

### **5.4 Visual aids for denoting obstacles.**

#### **5.4.1 General.**

The marking of obstacles is intended to reduce hazards to aircraft by indicating the presence of the obstacles. It does not necessarily reduce operating limitations that may be imposed by an obstacle. The Authority, in the pursuit of aviation safety, may require the marking of any object.

The responsibility for marking obstacles on and near aerodromes must be determined between the Aerodrome Licensee and the owners of the structures. The Authority is not concerned with the allocation of responsibility but may impose operating restrictions on the aerodrome if the requirements are not met.

The Aerodrome Licensee is responsible for ensuring that all obstacles on the movement area are marked as required, irrespective of ownership.

#### 5.4.2 Objects to be marked.

Fixed objects which penetrate the obstacle limitation surfaces or other objects for valid operational reasons may require marking.

Mobile objects to be marked *shall* be coloured or display flags.

The Aerodrome Licensee should submit to the Authority proposals concerning the marking of obstacles, on or in the vicinity of the aerodrome, taking into account the natural conspicuity of the obstacle and its operational significance.

Note - See IAA Publication, A.L.M. 002, Aerodromes Licensing Manual, Section 5.4 for additional information.

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## 6 AERODROME VISUAL AIDS

### 6.1 Introduction.

- 6.1.1 Aerodrome signals, markings, and markers provide guidance and information to pilots and assist them in complying with the Rules of the Air.

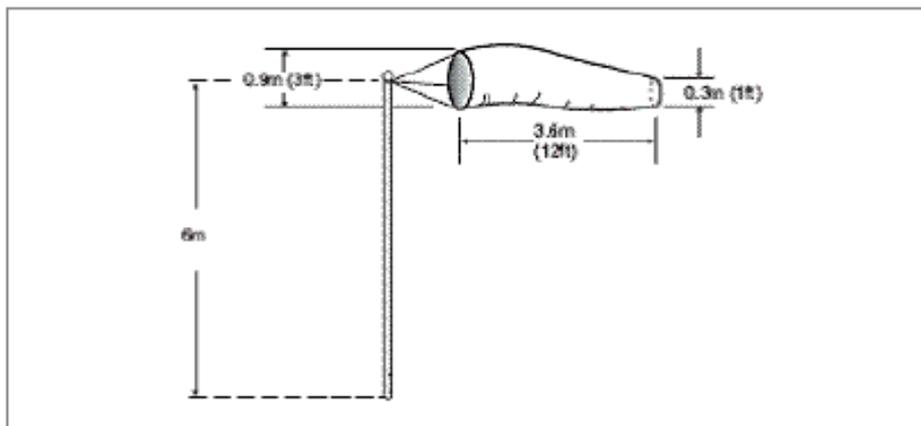
### 6.2 Signals.

- 6.2.1 Wind direction indicators.

An aerodrome *shall* be equipped with at least one wind direction indicator.

A wind direction indicator *shall* be located so as to be visible to aircraft in flight or on the movement area and in such a way as to be free from the effects of air disturbances caused by nearby objects.

The wind direction indicator should be in the form of a truncated cone made of fabric and should have a length of not less than 3.6 m and a diameter at the larger end, of not less than 0.9 m, as shown in figure 6.1 below. It should be constructed so that it gives a clear indication of the direction of the surface wind and a general indication of the wind speed. The colour or colours should be so selected as to make the wind direction indicator clearly visible and understandable from a height of at least 300 m, having regard to the background. Where practicable, a single colour, preferably white or orange, should be used. Where a combination of two colours is required to give added conspicuity against changing backgrounds they should preferably be orange and white, red and white or black and white and should be arranged in five alternate bands, the first and last bands being the darker colour.



**Figure 6.1 Wind Direction Indicator.**

### 6.3 Markings for denoting restricted use area.

#### 6.3.1 Closed runways and taxiways or portions thereof.

A closed marking *shall* be displayed on a runway or taxiway or portion thereof which is permanently closed to the use of all aircraft and all normal runway and taxiway markings *shall* be obliterated.

A closed marking should be displayed on a temporarily closed runway or taxiway or portion thereof, except that such marking may be omitted when the closing is of short duration and adequate warning by air traffic services is provided.

On a runway a closed marking *shall* be placed at each end of the runway, or portion thereof, declared closed, and additional markings *shall* be so placed that the maximum distance between markings does not exceed 300 m. On a taxiway a closed marking *shall* be placed at least at each end of the taxiway or portion thereof closed.

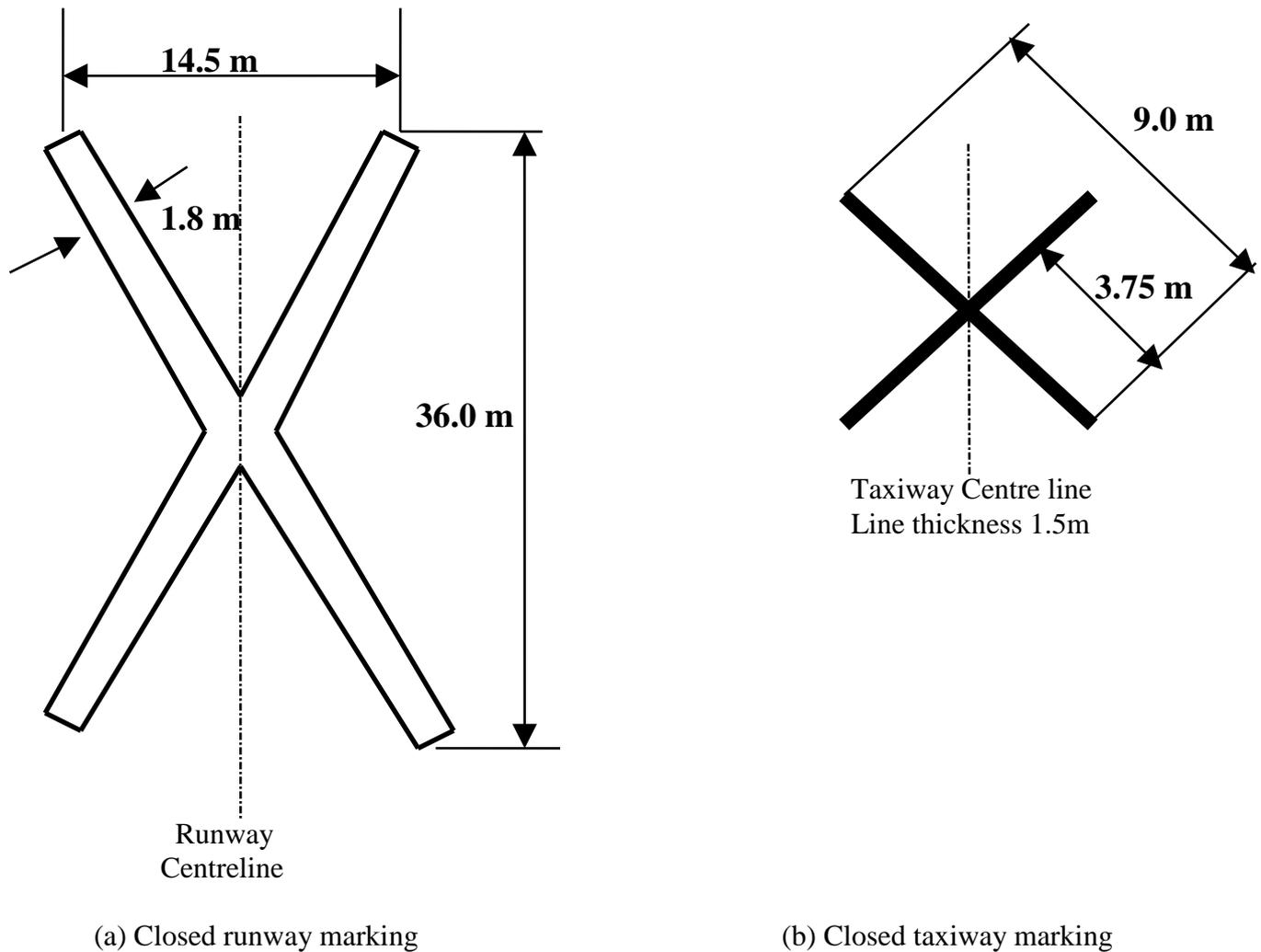
The closed marking *shall* be of the form and proportions as detailed in Figure 6.2 (a) when displayed on a runway, and *shall* be of the form and proportions as detailed in Figure 6.2 (b) when displayed on a taxiway. The marking *shall* be white when displayed on a runway and yellow when displayed on a taxiway.

Note - When an area is temporarily closed, frangible barriers or markings utilising materials other than paint or other suitable means may be used to identify a closed area.

#### 6.3.2 Non-load bearing surfaces.

Non-load bearing surfaces which cannot readily be distinguished from load bearing surfaces and which, if used by aircraft, may result in damage to the aircraft *shall* have the boundary between such areas and the load bearing surface marked by a taxi side stripe marking.

A taxi side stripe marking should be placed along the edge of the load-bearing pavement, with the outer edge of the marking approximately on the edge of the load-bearing pavement. A taxi side stripe marking should consist of a pair of solid lines, each 15 cm wide and 15 cm apart and the same colour as the taxiway centre line marking.



**Figure 6.2 Closed runway and taxiway markings**

### 6.3.3 Unserviceable areas.

Unserviceability markers *shall* be displayed wherever any portion of a taxiway or apron is unfit for the movement of aircraft but it is still possible for aircraft to by-pass the area safely.

Note: Unserviceability markers are used for such purposes as warning pilots of a hole in a taxiway or apron pavement or outlining a portion of pavement, such as an apron that is under repair. They are not suitable for use when a portion of a runway becomes unserviceable, nor on a taxiway when a major portion of the width becomes unserviceable. In such instances the runway or taxiway is normally closed.

Unserviceability markers *shall* consist of conspicuous upstanding devices such as flags, cones or marker boards and be placed at intervals sufficiently close to delineate the unserviceable area.

**An unserviceability:**

**flag** - should be at least 0.5 m square and red, orange or yellow or any one of these colours in combination with white;

**cone** - should be at least 0.5 m in height and red, orange or yellow or any one of these colours in combination with white; and

**marker board** - should be at least 0.5 m in height and 0.9 m in length, with alternate red and white or orange and white vertical stripes.

**6.4 Markings general.**

- 6.4.1 Markings provide perspective information, alignment guidance, location and runway and threshold identification. All markings on paved surfaces should have friction values not less than the friction classification design objective for the runway.

Runway markings *shall* be white.

Taxiway markings and aircraft stand markings *shall* be yellow.

## Notes:

- 1 It has been found that, on runway surfaces of light colour, the conspicuity of white markings can be improved by outlining them in black.
- 2 It is preferable that the risk of uneven friction characteristics on markings be reduced in so far as practicable by the use of a suitable kind of paint.
- 3 Markings may consist of solid areas or a series of longitudinal stripes providing an effect equivalent to the solid areas.

**6.5 Markings on paved surfaces.**

- 6.5.1 Runway Designation Marking.

A runway designation marking *shall* be provided at the thresholds of a paved runway (See figure 6.3).

A runway designation marking *shall* consist of a two-digit number. The two-digit number *shall* be the whole number nearest the one-tenth of the magnetic North when viewed from the direction of the approach. When this rule gives a single digit number a zero *shall* precede it.

The height of the numbers should be a minimum of 9 m with the form and proportion illustrated in the IAA Publication, A.L.M. 002, Aerodrome Licensing Manual, Chapter 4, Figure 4A.5.

The distance from threshold to designator and the distance from designator to first stripe of the centreline marking *shall* be 12 m.

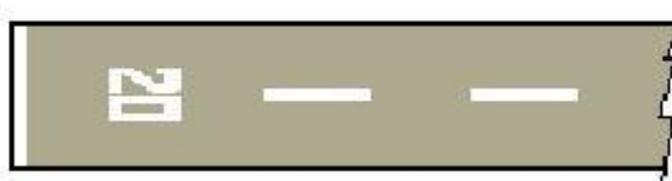
### 6.5.2 Runway Centre Line Marking.

A runway centre line marking *shall* be provided on a paved runway and located along the centre line of the runway between the runway designation markings.

It *shall* consist of uniformly spaced strips and gaps:

length of stripe	=	30 m
length of gap	=	20 m
minimum width of stripe	=	0.3 m

Note: The length of the gap and stripe may be increased so that an equal pattern is maintained within the runway length.



Threshold at Runway End

### Figure 6.3 Runway designation and centre line markings

### 6.5.3 Runway side stripe marking.

Runway side stripe marking *shall* be provided between the thresholds of a paved runway where there is a lack of contrast between the runway edges and the surrounding terrain.

A runway side stripe marking should be placed along each edge of the runway with the outer edge of each stripe approximately on the edge of the runway. The width of the strip should be 0.45 m.

### 6.5.4 Transverse Stripe.

If the end of the runway pavement is not square or if the runway end is not at the end of the runway pavement then a transverse stripe should be applied. The stripe should be at right angles to the runway centreline line. The width of the stripe should not be less than 0.6m.

### 6.5.5 Taxiway markings.

Taxiway centre line markings should be provided on a paved taxiway in such a way as to provide continuous guidance between the runway centre line and aircraft stands.

### 6.5.6 Aprons and aircraft stand markings.

Apron safety lines should be provided on a paved apron as required by the parking configurations and ground facilities.

Aircraft stand markings should be provided for designated parking positions on paved aprons.

Note: See IAA Publication, A.L.M. 002, Aerodrome Licensing Manual, Chapter 4 for markings associated with runway/taxiway intersections, displaced thresholds, etc.

## 6.6 Unpaved surfaces.

### 6.6.1 Runway edge markers.

Runway edge markers should be provided when the extent of an unpaved runway is not clearly indicated by the appearance of the surface as compared with that of the surrounding ground.



**Figure 6.4 Conical marker for grass runways and taxiways**

The markers may be of flat rectangular or conical shape and should be placed to delineate the runway clearly. The flat rectangular markers each 3 m long and 1 m wide should be placed flush with the surface at intervals of not more than 90 m. Conical shaped markers should be frangible, have a height not exceeding 50 cm. and be placed at intervals of not more than 90 m. Movable markers at right angles to and adjoining the end lateral markers should indicate the ends of the usable runway.

### 6.6.2 Taxiway markers.

Where the extent of an unpaved taxiway is not clearly indicated by its appearance compared to that of the surrounding ground, taxiway edge markers should be provided.

Yellow markers of conical shape should be placed so as to delineate the taxiway clearly.

## **7 SERVICES, EQUIPMENT AND INSTALLATIONS**

### **7.1 Air traffic services.**

7.1.1 The provision of air traffic services, essential for the operation of an aerodrome, is an integral part of the licensing procedure. The requirements depend upon the size, complexity and location of the aerodrome relative to other aerodromes and controlled airspace; the classification of the runways and the number and type of aircraft movements.

7.1.2 In general the requirements for a private aerodrome should consist of:

radio communications; and  
rules governing the selection of the runway and circuits and general use of the aerodrome.

7.1.3 However, the Authority will specify the minimum requirements for air traffic facilities at each licensed aerodrome. The Aerodrome Licensee should contact the Authority in relation to the provision of air traffic facilities at an early stage.

### **7.2 Disabled aircraft removal.**

7.2.1 When a reportable incident or accident occurs, except for the reasons specified in the Air Navigation (Investigation of Accidents) Regulations, the aircraft / wreckage should be left undisturbed until the Investigator-in-Charge of the accident investigation grants permission for the removal of the said aircraft / wreckage. Detailed guidance on the initial action at the scene of an accident, preservation of evidence, etc., may be found in the Manual of Air Accident Investigation. The Air Accident Investigation Unit (AAIU) has published guidance material for Emergency services responding to an aircraft accident. This document is available to download at <http://www.aaiu.ie/upload/general/9429-0.pdf>

Note: The control of the actual lifting and removal of aircraft is the responsibility of the registered owner or the operator concerned.

### **7.3 Maintenance.**

7.3.1 A maintenance programme, including preventative maintenance where appropriate, should be established at an aerodrome to maintain facilities in a condition which does not impair the safety, regularity or efficiency of air navigation.

7.3.2 Maintenance includes measures to keep or restore the operational function as well as measures to check and to evaluate the present function of an element. The basic components of maintenance are:

- inspection;
- servicing and overhaul; and
- repair.

#### **7.4 Bird and wildlife hazard reduction.**

- 7.4.1 A careful assessment of the hazards *shall* be made at each aerodrome and should be reviewed from time to time. Reassessment is essential when there is a noticeable change in bird behaviour patterns. Where a significant risk is identified the Authority will expect comprehensive procedures to be introduced to deal with the situation as effectively as possible. Such procedures are listed as one of the items to be included in the Aerodrome Manual, and the Authority will attach a high degree of importance to their suitability and the manner in which they are carried out.

Note: Refer to Section 7.5 of the IAA Publication, A.L.M. 002, Aerodrome Licensing Manual, for information on wildlife hazard reduction.

#### **7.5 Apron management.**

- 7.5.1 The Licensee *shall* ensure that the apron area is operated safely to prevent collisions.

#### **7.6 Ground servicing of aircraft.**

- 7.6.1 A separate approval is required for the reception, storage, quality control and dispensing of aviation fuel. (Contact the Authority for further information.)
- 7.6.2 Fire extinguishing equipment *shall* be readily available during the ground servicing of an aircraft.
- 7.6.3 It is recommended that the Licensee should consult the relevant Local Authority in relation to any additional pollution control measures required for aircraft servicing areas.
- 7.6.4 Aerodrome licensees and operators should note that refuelling with engines running is not permitted unless the operator is specifically authorised to do so by the Irish Aviation Authority.

#### **7.7 Fencing.**

- 7.7.1 A fence or other suitable barrier should be provided on an aerodrome:
- (a) to prevent the entrance to the movement area of animals large enough to be a hazard to aircraft.
  - (b) to deter the inadvertent or premeditated access of an unauthorised person onto a non-public area of the aerodrome.
- 7.7.2 The fence or barrier should be located so as to separate the movement area and other facilities or zones on the aerodrome vital to the safe operation of aircraft from areas open to public access.

**7.8 Objects on operational areas.**

- 7.8.1 With the exception of markers delineating runways and taxiways, no fixed or mobile object should be permitted on the runway strip when aircraft are landing or taking-off.

**7.9 Aerodrome vehicle operations.**

- 7.9.1 A vehicle *shall* be operated on the manoeuvring area and apron only as authorised by the Aerodrome Licensee.
- 7.9.2 The Aerodrome Licensee should ensure that the drivers of vehicles on the movement area are appropriately trained. This may include, as appropriate, a knowledge of:
- (a) the geography of the aerodrome;
  - (b) radiotelephony operating procedures;
  - (c) terms and phrases used in aerodrome control including the ICAO spelling alphabet;
  - (d) aerodrome rules and procedures; and
  - (e) specialist skills as required, for example in rescue and fire fighting.

In addition the operator should be the holder of an appropriate driver's licence.

**7.10 Meteorological information.**

- 7.10.1 It is recommended that the following information should be provided at an aerodrome licensed for private use:

Barometric Air Pressure  
Windspeed and direction  
Local visibility  
Temperature  
Dewpoint

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## 8 EMERGENCY SERVICES

### 8.1 Aerodrome emergency planning.

Note: The aerodrome emergency plan for a private aerodrome may be both simple and effective. The essential aspects of a plan are summarised in the following paragraphs. For additional information refer to the IAA Publication, A.L.M. 002, Aerodrome Licensing Manual, Chapter 6.

#### 8.1.1 Introduction.

Aerodrome emergency planning is the process of preparing an aerodrome to cope with an emergency at the aerodrome or in its vicinity.

Before the drafting of such plans and procedures it is important to be thoroughly familiar with the arrangements that are in force for dealing with accidents and public emergencies for the area in which the aerodrome is situated. There is a centralised system for alerting the services likely to be involved and this arrangement will have an impact on the content of the plan.

#### 8.1.2 The aerodrome emergency plan.

The aerodrome Licensee *shall* be responsible for establishing an emergency plan for the aerodrome commensurate with the aircraft operations and other activities conducted at the aerodrome.

The aerodrome emergency plan *shall* provide for the co-ordination of the actions to be taken when an accident, incident or other emergency occurs at the aerodrome or in its vicinity.

Note: A sample of a basic emergency plan for a private aerodrome is given in Appendix 8B

#### 8.1.3 Aerodrome emergency exercise.

The plan *shall* contain procedures for periodic testing of the adequacy of the plan and for reviewing the results in order to improve its effectiveness. A full scale emergency exercise involving external emergency services should take place every two years.

### 8.2 Aerodrome medical services.

8.2.1 All licensed aerodromes *shall* be equipped with first aid equipment appropriate to their category, and First aid training *shall* be undertaken by all aerodrome personnel likely to play an active role in rescuing or assisting persons involved in an aircraft accident. This is to ensure that in the early stages following an accident qualified assistance will be available. Under normal arrangements the emergency plan will be activated and the initial effort will be supplemented by professional ambulance and medical assistance within a short time.

8.2.2 The aerodrome Licensee should arrange to have sufficient medical supplies available on or in the vicinity of the airport and carried to the scene of the accident as quickly as possible. The aerodrome Licensee should determine the type and quantity of such supplies to treat the passenger and crew capacity of the largest aircraft normally using the aerodrome.

8.2.3 A list of medical supplies retained on or in the vicinity of the aerodrome should be made available to the Authority.

Note: A list of the minimum medical requirements for private licensed aerodromes is contained in Appendix 8A.

8.2.4 The availability of ambulance and medical facilities for the removal and after-care of casualties arising from an aircraft accident should receive careful consideration and form part of the overall emergency plan.

### 8.3 Rescue and fire fighting.

#### 8.3.1 Introduction.

The principle objective of a rescue and fire fighting service is to save lives. For this reason, the provision of means of dealing with an aircraft accident or incident occurring at, or in the immediate vicinity of, an aerodrome assumes primary importance because it is within this area that there are the greatest opportunities of saving lives. This must assume at all times the possibility of, and need for, extinguishing a fire which may occur either immediately following an aircraft accident or incident, or at any time during rescue operations.

The most important factors bearing on effective rescue in a survivable aircraft accident are: the training received, the effectiveness of the equipment and the speed with which personnel and equipment designated for rescue and fire fighting purposes can be put into use.

#### 8.3.2 Requirements.

The Aerodrome Licensee *shall* provide rescue and fire fighting equipment and services at an aerodrome to meet the appropriate requirements as specified in Appendix 8A of this document. The Authority may conditionally approve the use of a Special Category of protection less than aerodrome Category 1 having regard to the level and type of activity at the aerodrome.

The training of rescue and fire fighting personnel employed on duties at aerodromes in the Categories Special, 1 and 2 may be carried out by an appropriately experienced officer suitably qualified to carry out this task. The period of validity of this training and checking is 3 years. In addition, personnel should be given regular comprehensive fire and emergency training on the aerodrome to ensure the competent, safe and efficient use of their appliances and equipment.

The aerodrome rescue and firefighting service shall be available at least 15 minutes prior to the expected arrival of the first aircraft and after the last aircraft has departed the aerodrome.

**APPENDIX 8A****SUMMARY OF RESCUE AND FIRE FIGHTING REQUIREMENTS****APPLICABLE TO AERODROMES OF SPECIAL CATEGORY**

Note: This Table is only applicable to aerodromes specifically so approved by the Authority. It is also only valid for operations with aircraft with not more than 4 seats and an overall length of less than 9.0 metres.

**Minimum Extinguishing Media:**

Total media 63 kgs or litres.

Media to consist of foam and a complementary agent such as Dry Powder or equivalent.

The media should consist of a minimum of 18 litres Foam and 18 kg Dry Powder or equivalent

**Minimum Equipment in RFF Vehicle:**

Any protective equipment not usually worn by the crew (Helmets, Coats, Gloves etc.).  
Radio suitable for communication with Tower/Airfield Operations, if deemed appropriate.

Adjustable Spanner.

Assorted Pliers.

Axe rescue small non-wedging/ aircraft type.

Bolt croppers, small.

Blanket, fire resisting.

Hammer.

Hacksaw, heavy duty, with 6 spare blades.

Hook grab or salving.

Harness cutting tool.

Multi-purpose saw with blades for metal, wood and plastics.

Rope line, 15m length.

Screwdrivers, assorted to suit A/C panels etc.

Spade, garden type.

Tin snips.

Wrecking bar or equivalent.

Ladder/steps 3m approx.

## Minimum Medical Equipment for Special Cat Aerodromes

First Aid kit in a weather and insect proof container, to include as a minimum;

- Large Emergency Dressing or equivalent - 6 No.
- Medium Emergency Dressing or equivalent - 4 No.
- Triangular Bandages - 4 No.
- Surgical Scissors - 1 No.
- Blankets (Foil or Wool) - 4 No.
- Burns kit, such as water gel.
- Disposable Gloves - 3 Prs.

### GENERAL

At least two persons, suitably trained in First Aid and the use of firefighting equipment, should be in attendance during aircraft operations.

At an aerodrome, there should be regular training in rescue and firefighting involving external agencies.

If the RFF equipment is trailer mounted, it should be hitched to a suitable (4 X 4) towing vehicle during aircraft operations.

All RFF vehicles and equipment should be checked, inspected and serviced regularly.

An aerodrome emergency plan should be prominently displayed and it should be reviewed annually.

## SUMMARY OF RESCUE AND FIRE FIGHTING REQUIREMENTS

### APPLICABLE TO AERODROMES OF CATEGORY 1

Typical aircraft within Cat 1 include; Beech Bonanza, Cessna 150 / 172/ 182/ 206/ 210.  
Piper PA-18 Super Cub, Piper PA-38 Tomahawk.

(Overall length less than 9.0m, fuselage width less than 2.0m).

#### **Minimum Extinguishing Media:**

Foam Concentrate:

ICAO performance level	B	C
Water for Foam Production	230 litres	160 litres
Minimum discharge rate	230 litres/min	160 litres/min

Complementary Agents:	Dry powder	45 Kg.
	Minimum discharge rate	2.25 kg/sec

Note: Other complementary agents (Halons, CO2), having equivalent performance may be used.

All foam concentrates used should be certified by the manufacturer to conform to ICAO performance level B or C. Such certificates should be retained for inspection by the Authority.

#### **Minimum Equipment in RFF Vehicle:**

Any protective equipment not usually worn by the crew (Helmets, Coats, Gloves etc.).  
Radio suitable for communication with Tower/Airfield Operations, if deemed appropriate.

Adjustable Spanner.

Assorted Pliers.

Axe rescue small non-wedging/ aircraft type.

Bolt croppers, small.

Blanket, fire resisting.

Hammer.

Hacksaw, heavy duty, with 6 spare blades.

Hook grab or salving.

Harness cutting tool.

Multi-purpose saw with blades for metal, wood and plastics.

Rope line, 15m length.

Screwdrivers, assorted to suit A/C panels etc.

Spade, garden type.

Tin snips.

Wrecking bar or equivalent.

Ladder/steps 3m approx.

## Minimum Medical Equipment for Cat 1 Aerodromes

First Aid kit in a weather and insect proof container, to include as a minimum;

- Large Emergency Dressing or equivalent - 6 No.
- Medium Emergency Dressing or equivalent - 6 No.
- Triangular Bandages - 6 No.
- Surgical Scissors - 1 No.
- Blankets (Foil or Wool) - 6 No.
- Burns kit such as water gel.
- Disposable Gloves - 3 Prs.

### GENERAL

At least two persons, suitably trained in First Aid and the use of firefighting equipment, should be in attendance during aircraft operations.

At an aerodrome, there should be regular training in rescue and firefighting involving external agencies.

If the RFF equipment is trailer mounted, it should be hitched to a suitable (4 X 4) towing vehicle during aircraft operations.

All RFF vehicles and equipment should be checked, inspected and serviced regularly.

An aerodrome emergency plan should be prominently displayed and it should be reviewed annually.

## SUMMARY OF RESCUE AND FIRE FIGHTING REQUIREMENTS

### APPLICABLE TO AERODROMES OF CATEGORY 2

Typical aircraft within Cat 2 include; Beechcraft Model 18, Pilatus Turbo Porter, BN-2 Islander, Cessna 208/ 310, Piper Navajo PA-31,  
Overall length less than 12.0m, but greater than 9.0m, fuselage width less than 2.0m.

#### **Minimum Extinguishing Media:**

Foam Concentrate:		
ICAO performance level	B	C
Water for foam production	670 litres	460 litres
Minimum discharge rate	550 litres/min	360 litres/min
Complementary Agents:		
	Dry powder	90 Kg.
	Minimum discharge rate	2.25 kg/sec

Note: Other complementary agents (Halons, CO<sub>2</sub>), having equivalent performance may be used.

All foam concentrates used should be certified by the manufacturer to conform to ICAO performance level B or C. Such certificates should be retained for inspection by the Authority.

#### **Minimum Equipment in RFF Vehicle:**

Any protective equipment not usually worn by the crew (Helmets, Coats, Gloves etc.).  
Radio suitable for communication with Tower/Airfield Operations, if deemed appropriate.

Adjustable Spanner.

Assorted Pliers.

Axe rescue small non-wedging/ aircraft type.

Bolt croppers, small.

Blanket, fire resisting.

Hammer.

Hacksaw, heavy duty ,with 6 spare blades.

Hook grab or salving.

Harness cutting tool.

Flashlamp.

Multi-purpose saw with blades for metal wood, and plastics.

Rope line, 15m length.

Screwdrivers, assorted to suit A/C panels etc.

Spade, garden type.

Tarpaulin.

Tin snips.

Wrecking bar or equivalent.

Ladder/ steps 3m approx.

## Minimum Medical Equipment for Category 2 Aerodromes

First Aid kit in a weather and insect proof container, to include as a minimum;

- Large Emergency Dressing or equivalent - 10 No.
- Medium Emergency Dressing or equivalent - 10 No.
- Triangular Bandages - 10 No.
- Surgical Scissors - 2 No.
- Blankets (Foil or Wool) - 10 No.
- Burns kit such as water gel
- Disposable Gloves - 3 Prs.

### GENERAL

At least two persons, suitably trained in rescue and firefighting should be in attendance during aircraft operations. A third person should be available on the airfield to man the communications equipment in the event of an emergency. All three should be trained in First Aid.

At an aerodrome, there should be regular training in rescue and firefighting involving external agencies.

All RFF vehicles and equipment should be checked, inspected and serviced regularly.

An aerodrome emergency plan should be prominently displayed and it should be reviewed annually.

**APPENDIX 8B**  
**SAMPLE EMERGENCY PLAN**

Emergency Plan  
 For \_\_\_\_\_ Aerodrome

- 1 **Raise the Alarm.** Telephone 112 or 999 and give details of type of incident, number of persons involved, location, means of access, identity of person raising the alarm and anything else considered relevant.
  
- 2 **Save lives.** Use the Aerodrome rescue equipment to attempt to save the lives of occupants or others involved in the incident. Do not endanger your own life or the lives of others. Apply firefighting media from an upwind position. Keep bystanders away from the danger area. Ensure access to the site for the Emergency Services.
  
- 3 The following ***shall*** be informed of any aircraft accident:
  - (1) Air Accident Investigation Unit (AAIU)  
(01-) 6041293 (24 hr/ 7 day number).
  - (2) Gardaí
  - (3) Relevant ATC service provider
  - (4) Irish Aviation Authority
  
- 4 The following telephone numbers may be useful;
 

Hospital	_____
Doctor	_____
Fire Station	_____
Ambulance	_____
Garda Station	_____
Priest/Minister	_____

 Any other local rescue facilities or agency i.e. Coastguard, RNLI, Mountain Rescue Unit etc.

Note: Date the plan and ensure it is checked every year and amended as necessary.

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