



MALDIVES CIVIL AVIATION AUTHORITY  
Republic of Maldives

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**AIR SAFETY CIRCULAR**  
**ASC 139-9**

**Aerodrome Safeguarding**

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## Chapter 1 — General

### 1.1 Introduction

1.1.1 This publication is intended to provide guidance to all those involved in the process of 'Aerodrome Safeguarding'

1.1.2 The safeguarding system described in this Air Safety Circular satisfies International Civil Aviation Organisation (ICAO), and CAA Regulations, which state:

- a) ASC 139-5 and ICAO Annex 14, Volume I
  - i. Requires that Contracting States define the airspace around aerodromes to be maintained free from obstacles so as to permit the intended aeroplane operations at the aerodromes to be conducted safely and to prevent the aerodromes from becoming unusable by the growth of obstacles around the aerodromes. This is achieved by establishing a series of obstacle limitation surfaces that define the limits to which objects may project into the airspace.
  - ii. Objects which penetrate the obstacle limitation surfaces may in certain circumstances cause an increase in the obstacle clearance altitude/height for an instrument approach procedure or any associated visual circling procedure or have other operational impact on flight procedure design. Criteria for flight procedure design are contained in the Procedures for Air Navigation Services — Aircraft Operations (PANS-OPS, Doc 8168).
  - iii. Action shall be taken to decrease the risk to aircraft operations by adopting measures to minimize the likelihood of collisions between wildlife and aircraft.
- b) ICAO Annex 14, Volume II
  - i. Requires that the Contracting State define the airspace around heliports so as to permit intended helicopter operations to be conducted safely and to prevent, where appropriate, heliports from becoming unusable by the growth of obstacles around them.

## **1.2 Definitions**

1.2.1 Definitions of the terms and abbreviations used in this Circular, unless the context requires otherwise, are in MCAR-1 Definitions and Abbreviations.

## **1.3 Scope**

1.3.1 The common aim of all safeguarding is to assess the implications of any development being proposed within the vicinity of an established aerodrome to ensure, as far as practicable, that the aerodrome and its surrounding airspace is not adversely impacted by the proposal, thus ensuring the continued safety of aircraft operating at the location.

1.3.2 Aerodromes holding a certificate are required to ensure they have a system in place to monitor and safeguard their aerodrome against the growth of obstacles; or activities that may present a hazard to aircraft operations (e.g. encourage wildlife, glare, lighting, building induced turbulence, etc).

1.3.3 The CAA have a statutory role in safeguarding and shall be consulted on all planning proposals, but response will be limited to the safety impact of the proposal on the aerodrome.

1.3.4 It is encouraged that the planning applicant to engage with the aerodrome before applying for a new development within the vicinity of an aerodrome. If those discussions break down, or there is disagreement between the aerodrome operator and the applicant, the CAA can be asked to provide objective comment, typically to the planning authorities.

1.3.5 CAA's role is primarily concerned with safeguarding aerodromes and ensuring regulatory oversight of certified aerodromes.

## **1.4 Effective Date**

1.4.1 This Air Safety Circular is effective from 1 May 2025.

## **1.5 References**

The criterion for safeguarding is based on the following publications:

- a) ICAO, Annex 14 - Aerodromes
- b) Maldives Civil Aviation Regulations, MCAR 139, Aerodrome Rules
- c) Air Safety Circular 139-5 – Aerodrome Standards

## Chapter 2 — Aerodrome Safeguarding

### 2.1 What is Aerodrome Safeguarding?

2.1.1 Aerodrome safeguarding is the process of ensuring that developments and activities in the surrounding environment do not compromise the safe operation of the aerodrome. It encompasses various aspects aimed at protecting critical aerodrome functions and is achieved by assessing proposed developments so as to protect:

- a) The blocks of air through which aircraft fly, by preventing penetration of surfaces created to identify their lower limits the minimum obstacle clearance altitude (MOCA):
- b) The integrity of radar and other electronic aids to navigation by preventing reflections and diffractions of the radio signals.
- c) Aeronautical lighting, such as approach and runway lighting, by ensuring that they are not obscured by any proposed development and that any proposed lighting, either temporary or permanent, could not be confused for aeronautical ground lighting.
- d) The aerodrome from any increased wildlife strike risk. In particular bird strikes, which pose a serious threat to flight safety.
- e) Aerodrome operations from interference by any construction processes through the production of dusk/smoke, temporary lighting or construction equipment impacting on radar and other navigational aids.
- f) Aircraft from the risk of collision with obstacles through appropriate lighting.
- g) Aircraft from the risk of building induced turbulence.
- h) Aircraft from the risk from glint and glare, e.g. solar panels.

Safeguarding of Aerodromes is implemented by establishing a series of protection imaginary surfaces around each aerodrome as follows:

### 2.2 Obstacle Limitation Surfaces (OLS)

2.2.1 Obstacle Limitation Surfaces (OLS) represent the lower limit of the blocks of protected airspace around an aerodrome. They take the form of a complex set of 3- Dimensional surfaces, which extend upwards and outwards from the runway(s).

2.2.2 The OLS completely surround the aerodrome, but those surfaces aligned with the runway(s) used to protect aircraft landing or taking off can be more limiting than those surrounding the rest of the aerodrome, particularly as to get closer to the aerodrome. Details of the OLS found in ASC 139-5, Chapter 4.

### **2.3 PANS-OPS**

2.3.1 Surfaces established by designers of Procedures for Air Navigation Services and Aircraft Operations (PANS-OPS) are intended to safeguard an aeroplane from collision with obstacles when flying on instruments.

2.3.2 PANS-OPS specify the size and dimensions of the obstacle-free airspace needed for the approach, for the missed approach initiated at or above the OCA/H and for the visual maneuvering (circling) procedure.

2.3.3 Visual manoeuvring (circling procedures) described in PANS-OPS, is a visual approach procedure. The size of the area for a visual maneuvering (circling) varies with the flight speed.

2.3.4 It is permissible to eliminate from consideration a particular sector where a prominent non-removable obstacle exists by- establishing appropriate operational procedures.

2.3.5 In many cases, the size of the area will be considerably larger than that covered by the Annex 14 inner horizontal surface. Therefore, circling altitudes/height calculated according to PANS-OPS for actual operations may be higher than those based only on obstacles penetrating the inner horizontal surface area.

### **2.4 Basic ILS Surfaces**

2.4.1 “The basic ILS surfaces” defined in PANS-OPS represent the simplest form of protection for ILS operations. These surfaces are extensions of certain Annex 14 surfaces, referenced to runway threshold level throughout and modified after threshold to protect the instrument missed approach.

2.4.2 The airspace bounded by the basic ILS surfaces is however usually too conservative and therefore another set of surfaces, “obstacle assessment surfaces”, is specified in PANS-OPS.

## **2.5 Obstacle Assessment Surface (OAS)**

2.5.1 Obstacle Assessment Surfaces (OAS) establish a volume of airspace, inside which it is assumed the flight paths of aeroplanes making ILS approaches and subsequent missed approaches will be contained with sufficiently high probability.

## **2.6 Radar and other Electronic Aide to Air Navigation**

2.6.1 In low visibility conditions pilots are entirely dependent on the accuracy of the information displayed on the instruments in the cockpit to navigate and land their aircraft. Similarly, air traffic controllers rely on the accuracy of the information displayed on the radar screens in front of them to maintain safe separation between aircraft. It is essential, therefore, that this information has not been distorted by interference to the radio signals involved used in the operation of the navigation aids. All effort has to be done to safeguard Navigation aid's protection area needed for each of (radar / ILS / VOR / Microwave line, by:

- a) Contacting the Manufacturer company to provide all information about dimensions and slopes of protection area for each electronic aids and any restriction needed.
- b) Minimizing the effect of sources of non-visible radiation, or the presence of moving, or fixed objects that may interfere with, or adversely affect, the performance of aeronautical communications, navigation and surveillance systems.

## **2.7 Visual Aids**

2.7.1 Visual aids, consisting primarily of aeronautical ground lighting, assist pilots to line up the aircraft with the runway when approaching to land. These have to be protected by:

- a) preventing them from being obscured.
- b) preventing the installation and display of other lights, particularly street lighting,
- c) in a pattern or color which could be mistaken for visual aids;
- d) preventing a high level of background lighting which could diminish their effectiveness; and

e) preventing other lights which could dazzle pilots.

## **2.8 Control Tower**

2.8.1 Aerodrome operator should do all effort needed to provide protection needed to keep control tower line of sight clear form any obstacles.

## **Chapter 3 — Duties and Responsibilities**

### **3.1 Duties and Responsibilities of CAA**

- 3.1.1 Review aerodromes OLS maps according to CAA regulations.
- 3.1.2 Have obstacles assessment system and procedures in place.
- 3.1.3 Arrange with Operators and Local Planning Authority (LPA), concerned ministries and all other parties involved in aerodrome safeguarding protection area as follows:
  - a) Provide formal notifications of safeguarding protection area attached to maps of protection surfaces for each aerodrome to LPA.
  - b) Review all urban future development within Maldives to assure that none may affect aerodrome future development.
  - c) Review and approve different land use locations (industrial, commercial in addition to any windfarms, electricity poles, communication antennas and advertising high masts.
  - d) Review all new roads and bridges with its light poles in area adjacent to aerodromes.
  - e) Other information as may be necessary, for example, landscaping details to enable the bird strike potential to be assessed, or the types of cladding materials proposed so that the potential for radar reflection can be modelled.
- 3.1.4 As part of the Aerodrome Certification, CAA has to review and accept all obstacle data and its aeronautical studies and make sure that all are published in AIP.
- 3.1.5 Audit and support operator's safeguarding monitoring system to take necessary actions when needed.
- 3.1.6 Taking all measures to ensure that obstacle marked or lit.
- 3.1.7 Apply law enforcement in case of violation.

### **3.2 Duties and Responsibilities of Aerodrome Operator**

Each Aerodrome Operator shall:

- 3.2.1 Observe the National Laws, Regulations and Air Safety Circulars related to Aerodromes including all guidance materials issued by the CAA on Safeguarding.
- 3.2.2 Establish and implement aerodrome safeguarding protection applicable to the aerodrome on a map to be updated from time to time by the Aerodrome in a way

that will reflect the real situation/status in regard to obstacles deployment in the vicinity of the Aerodrome.

3.2.3 Designate members of the aerodrome to be responsible for aerodrome safeguarding and furnish them with proper and training to carry out their duties efficiently.

3.2.4 Establish procedures to:

- a. Monitor all human activities and developments within areas underlying the OLS.
- b. Identify the critical obstacles associated with the Non-Precision Approach (NPA) procedures and have them recorded in the Aerodrome Manual.
- c. Report to the procedure designer any changes of the status of the existing critical obstacles and any proposed development that is likely to be higher than the critical obstacles within the area depicted by the procedure designer.
- d. Monitor changes in the obstacle environment, marking and lighting.
- e. Monitor land use activities on the aerodrome and the areas surrounding the aerodrome, as specified in the relevant regulations, in coordination with the relevant authorities.
- f. Immediately report to CAA any violations, potential obstacles or new buildings, changes of navigation aid equipment or changes of use of any building within the aerodrome fence.
- g. Conduct an obstacle survey by a competent surveyor to establish the initial coordinates and details of obstacles and conduct periodic surveys thereafter.
- h. Ensure that the runway and taxiway strip areas are free from obstacles or objects which are considered hazardous to aircraft operations unless required to be there for air navigation purposes.
- i. Mitigate the risks associated with changes on aerodrome and its surroundings identified by the monitoring procedures.

3.2.5 Define the scope, limits, tasks and responsibilities for the monitoring process, in coordination with the local authorities and air traffic services providers, and other relevant authorities.

3.2.6 Assess the risks caused by human activities and land use, determine the define the mitigation measures required. Risks to be assessed should include but not limited to:

- a. Obstacles and the possibility of induced turbulence.

- b. Use of hazardous, confusing, and misleading lights.
- c. Dazzling caused by large and highly reflective surfaces.
- d. Sources of non-visible radiation, or the presence of moving, or fixed objects which may interfere with, or adversely affect, the performance of aeronautical communications, navigation and surveillance systems.
- e. Non-aeronautical ground light near an aerodrome which may endanger the safety of aircraft and which must be extinguished, screened, or otherwise modified so as to eliminate the source of danger.
- f. Protect area around aerodrome visual aid located outside aerodrome boundaries by all means of land acquisition (leasing, purchasing etc.) or by preventing new developments or extensions to existing structures from infringing the aerodrome safeguarding protection surfaces.
- g. Notify CAA of any infringement or potential infringement of the aerodrome safeguarding protection surfaces providing the nature and location of obstacles, and report any subsequent addition, or removal of obstacles for action as necessary, including amendment of the AIS publications.
- h. Take necessary measures to assess the risks resulting from an infringement of OLS to identify whether or not the object creates an unacceptable risk or not and carry out the necessary actions to remove the obstacle or mitigate the risk as appropriate to protect aircraft using the aerodrome.
- i. Publish and mark, when needed and where necessary, and make visible by means of lights any remaining obstacles.
- j. When required, provide electronic obstacle data for all obstacles in Area 2 (the part within the aerodrome boundary) that are assessed as hazardous to air navigation.

**Note:** Aerodrome operators need to liaise with appropriate planning authorities and companies that erect tall structures, to determine potential infringements. Every effort should be made to implement the OLS standards and limit the introduction of new obstacles.

When a new obstacle is detected, the aerodrome operator must ensure that the information is passed on to pilots, through NOTAM or through the Aerodrome's AIP if permanent, in accordance with the standards for aerodrome reporting procedures.

## Chapter 4 — Obstacles Mechanism

### 4.1 Planning Phase

- 4.1.1 Safeguarding Process should be an integral part of the planning procedure.
- 4.1.2 LPAs are advised to contact CAA before issuance of any building height approval or approval of land use plan within 15km of the aerodromes.
- 4.1.3 The LPAs then refer to CAA of any new urban planning within OLS area, to ensure it meets certain criteria relating the height, location and type of use or any other restriction.
- 4.1.4 In addition, any proposed developments with bird attractant properties or any wind farms within 30km of an aerodrome will also be referred for consultation.

### 4.2 Who should apply?

- 4.2.1 Any property owner / investors
- 4.2.2 Local Planning Authority
- 4.2.3 Aerodrome Operator

### 4.3 Documents Assessment Phase

- 4.3.1 To enable accurate assessment of a proposed development, CAA should require certain information to be provided by LPA / Owner as followed:
  - a. Position: an accurate map reference from a 1:50,000 scale ordnance survey map so that the exact position may be plotted. OR
  - b. Grid Reference (to at least 6 figures for each of easting and northings).
  - c. The ground elevation of the proposed location referred to mean sea level (MSL) [to an accuracy of  $\pm 0.25\text{m}$ ].
  - d. Application showing the following information:
    - i. Responsibility: Owner's name and address (for legal action in case the need to apply enforcement).
    - ii. Height: required height referenced to MSL measured from the highest point of the building - or above ground level (where exact figures are not available, to the nearest 5 feet).
    - iii. Type of use (industrial, commercial, poles, electricity towers.... etc.....any additional clarification could help the processing of the application).
    - iv. Other information may be necessary, as for example: landscaping details to enable the bird strike potential to be assessed, or the types of cladding materials proposed so that the potential for radar reflection can be modelled.

#### **4.4 Processing Phase**

- 4.4.1 The review of an application will be based on its potential impact on the following areas. Depending on the complexity, a committee of relevant specialists may be required:
- a. Aerodrome OLS.
  - b. Obstacle Assessment Surfaces which protect Visual and Instrument Flight Paths.
  - c. Visual and Electronic Aids, including Radar, to Air Navigation.
  - d. Type of land use.

#### **4.5 Following Assessment**

- 4.5.1 The reply from the CAA to the LPA will be any of the following:
- a. Aviation permit (no objection).
  - b. Aviation conditioned permit [no objection subject to certain stated condition(s)].
  - c. Aviation Objection letter (with reasons given).

#### **4.6 Duration and Renewal of Permit**

- 4.6.1 CAA should define validation date to Aviation permits issued thereby taking into account normal timeline of construction; and
- 4.6.2 The permit maybe renewed, unless permit is surrendered by the permit is holder or revoked by the CAA.

#### **4.7 Amendment of Permit**

- 4.7.1 Provided that the requirements of OLS been met, CAA may amend a permit upon:
- a. Formal request of the owner providing reasons.
  - b. Changes in the basic information due to inaccurate data/type of use formerly provided.
  - c. Changes related to regulation.
  - d. Change in the boundaries or component of the aerodrome (new runway or closure/extension of runway); or change of location or height of an aerodrome Navigation Aids.

#### **4.8 Interim Permit**

- 4.8.1 CAA may issue an interim height permit only for:
- a. new urban areas to provide guidance on permitted type of use and permitted heights.
  - b. guidance for design / land evaluation purposes only.

#### **4.9 Data Needed**

- a. Coordinates of highest point (or shown in a map).
- b. Proposed type of use; and
- c. Proposed height. (Above ground level).

#### **4.10 Compliance with Height Permits**

- 4.10.1 Each aerodrome operator / property owner or local authority in areas cotangent to aerodromes should undertake the necessary arrangements to apply at CAA for compliance letter after completion of all construction work.
- 4.10.2 If CAA verification process shows violation to the permitted height/use a letter should be issued to the owner to rectify the violation, and If no action is taken by the owner during the grace period specified therein, CAA/aerodrome operator should undertake all the necessary enforcement actions against such violation as prescribed by the relevant law and regulations.

#### **4.11 Exemption**

- 4.11.1 An applicant or a permit holder may submit to the CAA , exemption from compliance with a condition stipulated in the permit issued to him or from a requirement of the relevant Regulation as the case may be. The petition must be accompanied with a statement depicting the reasons of such petition and all the details and particulars that may be of support thereto. CAA should conduct an aeronautical study of the case to identify the associated hazards and analyse the consequent risks. Based on the study and analysis results, CAA may grant an exemption after identifying the appropriate practical measures that must be undertaken and whereby an equivalent level of safety can be attained, with bearing in mind the safety objective of regulations and the applicable standards so that the intent of the regulations is not circumvented.
- 4.11.2 Exemption may be, only, given in cases defined as for public interests or if the object which constitutes the subject matter of the exemption petition is shielded by non-removable obstacle.
- 4.11.3 If exemption is granted for an object located within the areas underlying the safeguarding surfaces, especially the approach area of OFZ, the AIS should be notified of the exempted object location and all other details needed for publication.
- 4.11.4 Finally exempted objects should be lighted and marked when needed according to ASC 139-5, Chapter 6.

#### **4.12 Cancellation / Provoke of a Permit**

- 4.12.1 A permit should be cancelled or provoked in case of:
- a. non-compliance with requirements/restrictions cited therein.
  - b. safety reasons.

- c. new development of aerodrome; and/or
- d. new navigation aid.

4.12.2 A permit cancellation notification should be served upon the concerned parties (LPA, permit holder...) indicating the reasons for such cancellation.

## Chapter 5 — Objects outside the Obstacle Limitation Surfaces (OLS)

### 5.1 Objects outside the Obstacle Limitation Surfaces (OLS)

5.1.1 CAA should be consulted concerning proposed construction beyond the limits of the obstacle limitation surfaces that:

- a. extends 120m above local ground level / or higher than the general tree height in the area.
- b. any communication antenna/ electricity poles/advertisement boards or poles etc., and
- c. wind farms, chimneys or any object that has an outcome that could affect airspace safety.

5.1.2 In areas beyond the limits of the OLS, at least those objects which extend to 120m or more above ground elevation should be regarded as obstacles, unless a special aeronautical study indicates that they do not constitute a hazard to aero planes.

**Note:** This study may have regard to the nature of operations concerned and may distinguish between day and night operations and may be preferable to be lighted and marked.

### 5.2 Other objects

5.2.1 Objects which do not project through the approach surface, but which would, nevertheless, adversely affect the optimum siting or performance of visual or nonvisual aids should, as far as practicable:

- a. be removed.
- b. Marked and/or lit.

5.2.2 Anything which may, in the opinion of the CAA after aeronautical study, endanger aeroplanes on the movement area or in the air within the limits of the inner horizontal and conical surfaces should be regarded as an obstacle and should be removed in so far as practicable.

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

5.2.3 Temporary and transient obstacles. Temporary obstacles as cranes and transient (mobile) obstacles, such as road / vehicles / rail carriages or ships, in close proximity to the aerodrome and which penetrate the OLS for a short duration, must be referred to CAA to determine whether they will be a hazard to aircraft operations.

5.2.4 Fences or levee banks. A fence or levee bank that penetrates the OLS must be treated as an obstacle.

### **5.3 Protection from Light or Laser Emission**

5.3.1 Each person proposing to operate a light or laser should notify the CAA in accordance with Law.

- a) Because of its glare or effect on a pilot's vision, the light or laser is liable to endanger aircraft; or
- b) for a laser, it would produce exposures in navigable air space exceeding the maximum permissible exposure defined for that laser; or it is likely to endanger aircraft by being mistaken for:
  - i. a light or part of a system of lights established or approved for display at or near an aerodrome; or
  - ii. light marking a hazard in navigable airspace.

### **5.4 Notice of use of weapons**

5.4.1 Each person or each person representing an organization, proposing to use weapons that will fire or launch a projectile that will have a trajectory higher than 60m should notify the CAA.

### **5.5 Notice of use of pyrotechnics**

5.5.1 Each person proposes to stage pyrotechnics display that will involve the firing or launching of a projectile that will have a trajectory higher than 60m shall notify the CAA.

### **5.6 Notice requirements.**

5.6.1 Each person required to provide notice to the CAA should complete related CAA form and submit it to the Director CAA at least 90 days prior to the proposed date of commencement of construction, alteration, or use.

5.6.2 In case of an emergency involving essential public services, public health, or public safety, that requires immediate construction or alteration of a structure, or use of a structure, lights, lasers, weapons, or pyrotechnics.

- the notice requirements in paragraph 5.6.1 should not apply.
- The person responsible for the construction, alteration, or use should complete related CAA form and submit it to the Director within 5 days after the use, construction, or alteration.

- 5.6.3 A person proposing to use lights, lasers, weapons, or pyrotechnics, in a control zone during times when the appropriate ATS is on watch
- i. is not required to provide notice under paragraph 5.6.1; and
  - ii. should complete related CAA form and submit it to the CAA at least 14 working days prior to the commencement of the use.

## Chapter 6 — Land Use Hazards

### 6.1 Wildlife

- 6.1.1 Bird strikes collisions between birds and aircraft cost the aviation industry millions per year in damage and delays to aircraft and are a major hazard. Over 80% of bird strikes occur on or close to aerodromes and their operators are required to take necessary steps to ensure that the bird strike risk is reduced to the lowest practicable level.
- 6.1.2 The risk to aircraft arises from birds that move into the path of aircraft, either because they are on the aerodrome itself, or because they are crossing the airfield or its approaches as they move between sites which may be many kilometres outside the aerodrome. Aircraft are particularly vulnerable to collisions with large birds such as swans and flocks of small, medium and large birds such as starlings, gulls and geese.
- 6.1.3 Birds are attracted to the vicinity of an aerodrome by various types of development, including water features, landfill sites, nature reserves, gravel extraction and landscaping.
- 6.1.4 The objective of the safeguarding process is to prevent any increase in, and where possible reduce, the bird strike risk at an aerodrome. This may be possible by altering planning proposals to remove bird attractive features or, failing this, to object outright to those that cannot be adequately redesigned.
- 6.1.5 When determining whether a planning application will increase the bird strike risk at an aerodrome the following factors will be taken into account:
- a. what types of development are attractive to which species of bird.
  - b. whether birds will move from existing sites to the proposed one and, in the process, cross aircraft flight paths near to the aerodrome, or indeed move onto the aerodrome itself; and
  - c. where an LPA is consulted by a developer regarding the exercise of a permitted development right under these regulations, the LPA should refer the developer direct to the aerodrome operator for safeguarding advice.

### 6.2 Radiation Interference

- 6.2.1 The safeguarding process is used to protect Radar and other Electronic Navigational Aids from radio frequency interference from other sources of radio emissions; radio signal reflections or diffractions caused by physical objects.
- a. A recent and less obvious source of radio frequency interference is the wind driven generator.
  - b. Therefore, proposed wind farms within 30km of aerodromes need to be considered in the safeguarding process.

### **6.3 Construction activities**

- 6.3.1 Safeguarding aspects of a proposed development do not end with the grant of Aviation Permit.
- 6.3.2 The methods and equipment to be employed during construction may also need to be agreed, particularly if cranes or other tall construction equipment will be involved as these tend to be taller than the proposed structure.
- 6.3.3 For a project close to the aerodrome or under the approaches, the Developers must apply for a permit before operating carnage within a 6km circle of the ARP.
- 6.3.4 The application for the permit must indicate the herein below listed information:
  - a. Exact location of the crane marked on a map.
  - b. Maximum operating height of crane Above Ground Level (AGL).
  - c. Type of crane/equipment (e.g. Tower, Crane, Mobile Crane etc.)
  - d. Radius of the jib/boom of a fixed crane/the area of operation of a mobile crane.
  - e. Intended dates and times of operation.
  - f. Applicant's name and address.
  - g. Once these details have been studied by CAA it will be determined whether the operation can proceed and whether restrictions will apply, and a relevant Permit should be issued by CAA setting out any restrictions as required to ensure aircraft operation safety.

### **6.4 Roads and Railways near Aerodromes**

- 6.4.1 Roads and rail vehicles are potential obstructions to aircraft. The internationally agreed safety criteria recognize this by considering a road to be a mobile obstruction of 4.8 meters and a railway to be a mobile obstruction of 5.4 meters.
- 6.4.2 If a road or a railway forms part of a planning application, the LPA should regard it as development of a height of 4.8 or 5.4 meters.
- 6.4.3 Lighting columns and other street furniture, and signal gantries and power lines, should also be the subject of consultation appropriate to their height.

### **6.5 Non-aeronautical Ground Lights**

- 6.5.1 A non-aeronautical ground light which, by reason of its intensity, configuration or colour, might prevent, or cause confusion in, the clear interpretation of aeronautical ground light should be extinguished, screened or otherwise modified so as to eliminate such a possibility. A detailed assessment should be conducted.