



**INTERNATIONAL CIVIL AVIATION ORGANIZATION  
EASTERN AND SOUTHERN AFRICAN OFFICE**

**TENTH MEETING OF THE AERODROME OPERATIONS PLANNING SUB-GROUP  
(AOP/SG/10) (NAIROBI, KENYA, 5-7 AUGUST 2013)**

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**Agenda Item 3: Challenges Facing the Use of Aeronautical Studies for the Purpose of  
Granting of Exemptions and Protecting Obstacle Limitation Surfaces**

*(Presented by Kenya)*

**SUMMARY**

This paper discusses challenges faced in the use of aeronautical studies for the purpose of granting exemptions and protection of obstacle limitation surfaces around aerodromes.

**Action by the Meeting:**

Action by the meeting is at paragraph 4.

**1. BACKGROUND**

1.1 International standards as described in ICAO Annex 14 specify airspace around aerodromes to be maintained free from obstacles. The Annex further specifies that land use activities around Aerodromes be controlled in order to ensure that such activities do not impact on safety of aircraft operations. These activities include erection of obstacles within the obstacle limitation surfaces and urban waste management. Guidance in ICAO Doc 9771 Bird and Wildlife Hazard Management provides guidance for the management of wildlife hazards around aerodromes. Annex 14 provides for the use of aeronautical studies for the purpose of granting exemptions or as a means for establishing an acceptable level of compliance in the event of a deviation from accepted standards and practices. An Aeronautical study is necessary for the purpose of proposing mitigations and for carrying out an assessment of the possible impact of an exemption on safe operation of aircraft. There are currently no specific technical guidance material on the conduct of aeronautical studies and for the evaluation of the results of such studies. So far, attempts to carry out an aeronautical study in Kenya has been dependent on the views received from the Aviation stakeholders such as Department of Defense, Association of Air Operators, Kenya Airways among others in the aviation industry. In the case of bird and wildlife hazard management, the aeronautical study carried out by applicants has more or less been an environmental impact assessment with focus on bird movement trends.

## 2. INTRODUCTION

2.1 Kenya, in compliance with Standards and Recommended Practice for obstacle limitation surface as contained in ICAO Annex 14, established its own legislation limiting the construction or erection of building or structure that may penetrate an obstacle limitation surface at an aerodrome.

2.2 Kenya permits the erection of objects that penetrate the obstacle limitation surface of an aerodrome only where such objects are considered to be shielded by other fixed obstacles, or when the results of an aeronautical study show that the erection of such objects will not endanger the safe operation of aircraft.

2.3 In Kenya, aeronautical studies required prior to granting permission to erect objects within obstacle limitation surfaces take into account the following:

- i. whether the objects may affect the safety of an ongoing or scheduled VFR or IFR flight procedure;
- ii. whether they may have an impact on visual approach;
- iii. whether the erection of such objects may influence mid-long term airport development plan;
- iv. whether such obstacles may cause electro-magnetic interference with existing or planned NAVAIDS;
- v. whether such obstacles may affect the visibility from air traffic control tower of runways, taxiways, or crossed air traffic pattern;
- vi. whether the erection of such obstacles may reduce the capacity and efficiency of airport;
- vii. whether such obstacles may affect take-off run available of existing or planned runways;
- viii. whether there is an impact from such obstacles entailed by increase or decrease in air traffic volume;
- ix. whether there is an impact from those obstacles whose level of impact may vary depending on the characteristics of airport and aircraft;
- x. whether there may be an increased impact from aircraft noise on local residents in the area where such objects are to be built;
- xi. whether the erection of such obstacles may affect no-fly zone or flight restriction zone around the airport; and
- xii. whether aircraft warning lights are installed on such obstacles, and such information is published in the AIP.

2.4 An applicant is required to carry out the aeronautical study and submit the report to the Kenya Civil Aviation Authority (KCAA) for consideration. Depending on the exemption or permission sought, the study report may suggest an alternative method of compliance with the stipulated requirements and/or mitigations for ensuring that the required level of safety is not compromised. The results of the study are reviewed by the KCAA for the purpose of evaluating the proposals of the report, determining whether any suggested alternative method of compliance meets an equivalent level of safety, and whether the proposed mitigations are acceptable prior to granting permission or exemption.

### 3 DISCUSSION

3.1 Standards and Recommended Practices for obstacle limitation surfaces contained in ICAO's Annex 14 stipulate that when a State allows an exemption from the regulation governing obstacle limitation surface, the State must conduct an aeronautical study to determine that the erection of such objects within obstacle limitation surfaces do not compromise the safety of aircraft operation.

3.2 Like in Kenya, many States have adopted in their national regulations, the use of aeronautical studies as a means of determining whether or not an exemption can be granted. This implies that an Aeronautical study is accepted as an important tool for ensuring the continuous sustenance of an acceptable level of safety in aircraft operations. However, since there is no international guidance material for the conduct of aeronautical studies, there is a danger to aviation safety when States use their own discretion or other national considerations for the conduct of aeronautical studies. The application of different standards and practices by different States undermines the principle of uniformity in international civil aviation operations. It is imperative that ICAO and States work together to have in place internationally recognized technical guidance material to guide the conduct of an aeronautical study.

3.3 Kenya may not be the only State currently facing challenges in the use of aeronautical studies as stipulated in the State's regulations. Further, Kenya is aware that there are a number of States which may have put in place, working solutions to ensure the successful conduct of aeronautical studies carried out in those States. As a joint effort towards protecting aerodromes and international aircraft operations, it is important that States share information and experiences in the area of aeronautical studies. Sharing of information and experiences will go a long way in creating awareness and assisting those States that are experiencing challenges.

### 4. ACTION BY THE MEETING

The meeting is invited to:

- a) Take note of the contents of this paper
- b) Discuss the proposals in paragraph 3 c) and d) and make recommendations as appropriate.

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