Republika e Kosovës
Republika Kosovo - Republic of Kosovo

CAA

Autoriteti i Aviacionit Civil i Kosovës
Autoritet Civilnog Vazduhoplovstva Kosova
Civil Aviation Authority of Kosovo

Occurrence Reporting Overview

2010

Autoriteti i Aviacionit Civil – Autoritet Civilnog Vazduhoplovstva – Civil Aviation Authority
Rruga Sejdi Kryeziu Nr. 3-5 – 10000 Prishtinë – Republika e Kosovës
Tel: +381 (0)38 248 629 – Fax: +381 (0)38 211 009 – Web: http://www.caa-ks.org

Introduction

The objective of Occurrence Reporting System is to contribute to the improvement of air safety by insuring that relevant information on safety is reported, collected, stored, protected and disseminated. The ultimate goal of occurrence reporting is the prevention of incidents and accidents and not to attribute blame or liability.

Pursuant to Regulation 01/2009 on Occurrence Reporting in Civil Aviation, which transposes into Kosovo's national legal order the Directive 2003/42/EC, the persons listed in theRegulation shall report aviation occurrences to the Civil Aviation Authority of Kosovo (CAAK). Such reporting contributes to the improvement of the safety of civil aviation through better knowledge of these occurrences to facilitate analysis and trend monitoring for initiating corrective actions.

Occurrence Reporting System in Kosovo has been in place since 2006. Despite the slow start, the occurrence reporting rate has substantially improved in the last few years.

The CAA has set up the ECCAIRS (European Co-ordination Centre for Aviation IncidentReporting Systems) system in its office and at the Pristina International Airport "Adem Jashari" (PIA) for facilitating the reporting of occurrences by all persons who have a duty to report such occurrences. The CAA will subsequently integrate its systems with the EU ECCAIRS central office for exchange of occurrence information and for facilitating effective analysis and monitoring of safety critical information, in accordance with Regulation 8/2010, which transposes in the national legal order of Kosovo the Commission Regulation (EC) No.1321/2007. Accidents and serious incidents shall also be stored in the database, subject to the agreed terms and conditions with the Aircraft Accident Incident Investigation Commission (AAIIC) of the Republic of Kosovo.

ECCAIRS Occurrence Classes

The ECCAIRS occurrence classes are based on ICAO's ADREP 2000 taxonomy.

Accident

An occurrence associated with the operation of an aircraft which takes place between the time any person boards the aircraft with the intention of flight until such time as all such persons have disembarked, in which:

a) a person is fatally or seriously injured as a result of:
   - being in the aircraft, or
   - direct contact with any part of the aircraft, including parts which have become detached from the aircraft, or
   - direct exposure to jet blast, except when the injuries are from natural causes, self-inflicted or inflicted by other persons, or when the injuries are to stowaways hiding outside the areas normally available to the passengers and crew; or

b) the aircraft sustains damage or structural failure which:
   - adversely affects the structural strength, performance or flight characteristics of the aircraft, and
   - would normally require major repair or replacement of the affected component, except for engine failure or damage, when the damage is limited to the engine, its cowlings or accessories; or for damage limited to propellers, wing tips, antennas, tires, brakes, fairings, small dents or puncture holes in the aircraft skin; or

c) the aircraft is missing or is completely inaccessible.

Serious incident

An incident involving circumstances indicating that an accident nearly occurred. *N.B.*
Examples of serious incidents can be found in Attachment D of ICAO Annex 13 and in the ICAO Accident/Incident Reporting Manual (ICAO Doc 9156).

Incident

An occurrence, other than an accident, associated with the operation of an aircraft which affects or could affect the safety of operation. *N.B.*

The type of incidents which are of main interest to the International Civil Aviation Organization for accident prevention studies are listed in the ICAO Accident/Incident Reporting Manual (ICAO Doc 9156) and ICAO Annex 13.

Major incident

An incident associated with the operation of an aircraft, which safety of aircraft may have been compromised, having led to a near collision between aircraft with ground or obstacles (i.e. safety margins not respected which is not the result of an ATC instruction).

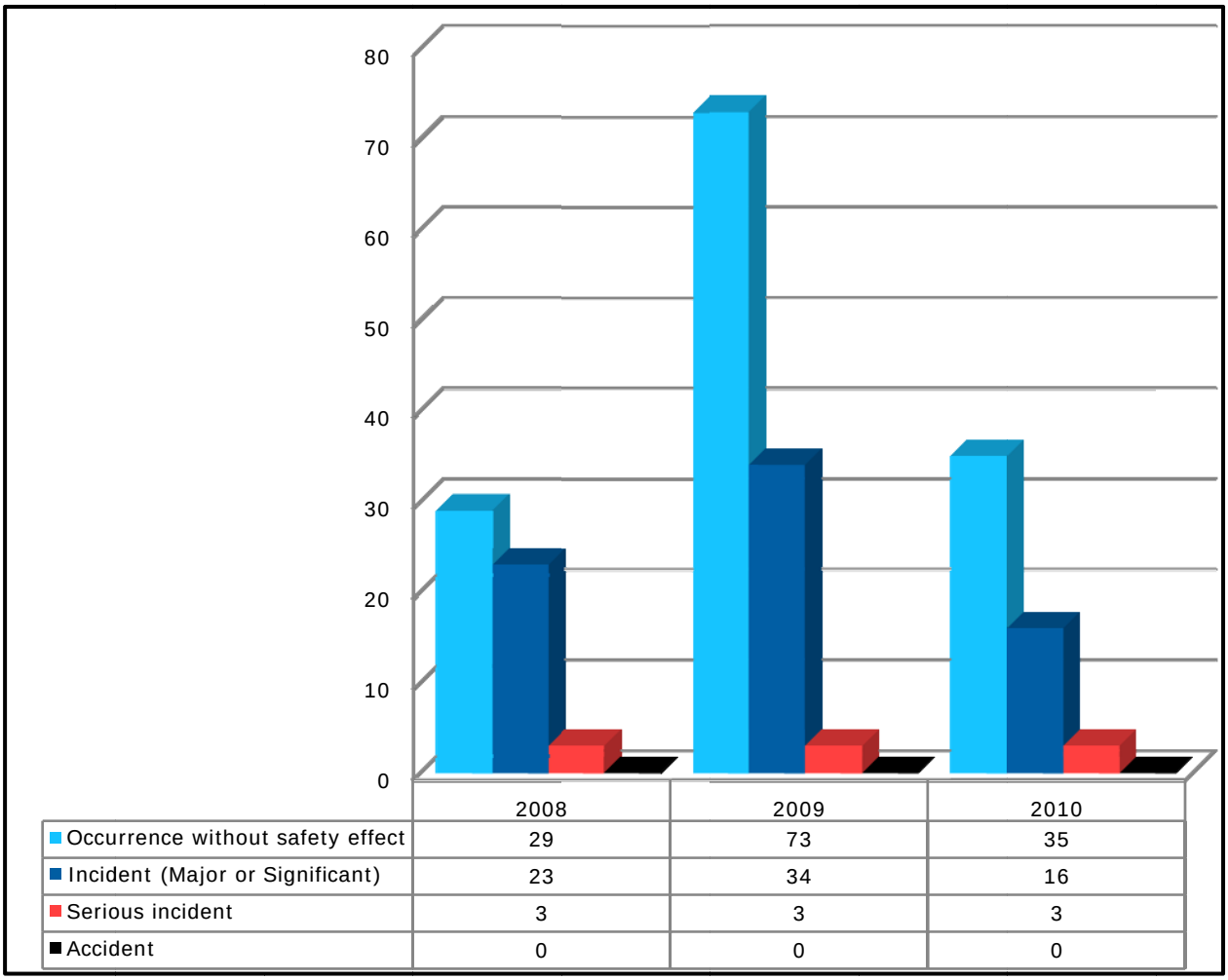
Significant incident

An incident involving circumstances indicating that an accident, a serious or major incident could have occurred, if the risk had not been managed within safety margins, or if another aircraft had been in the vicinity.

Occurrence without safety effect

An incident which has no safety significance.

Statistics



	2008	2009	2010
Occurrence without safety effect	29	73	35
Incident (Major or Significant)	23	34	16
Serious incident	3	3	3
Accident	0	0	0

Figure 1. Number of ORs received in the last three years according to occurrence class

Figure 1 shows that there is a significant difference between the number of reported occurrences in 2008, 2009 and 2010. In 2009, a record number of 110 occurrences were reported, while in 2008 and 2010 only 55, respectively 54 occurrences were reported. Observing the trend of received ORs in 2009, a contributing factor to the high number of reported occurrences was the increased number of bird strikes (44). In addition, it is estimated that a significant number of bird strikes in 2009 was due to ongoing construction works on the airfield. In 2010 the number of bird strike reports was significantly reduced mainly because of the implementation of the safety recommendations, as outcome of the investigation reports on bird strike occurrences at PIA.

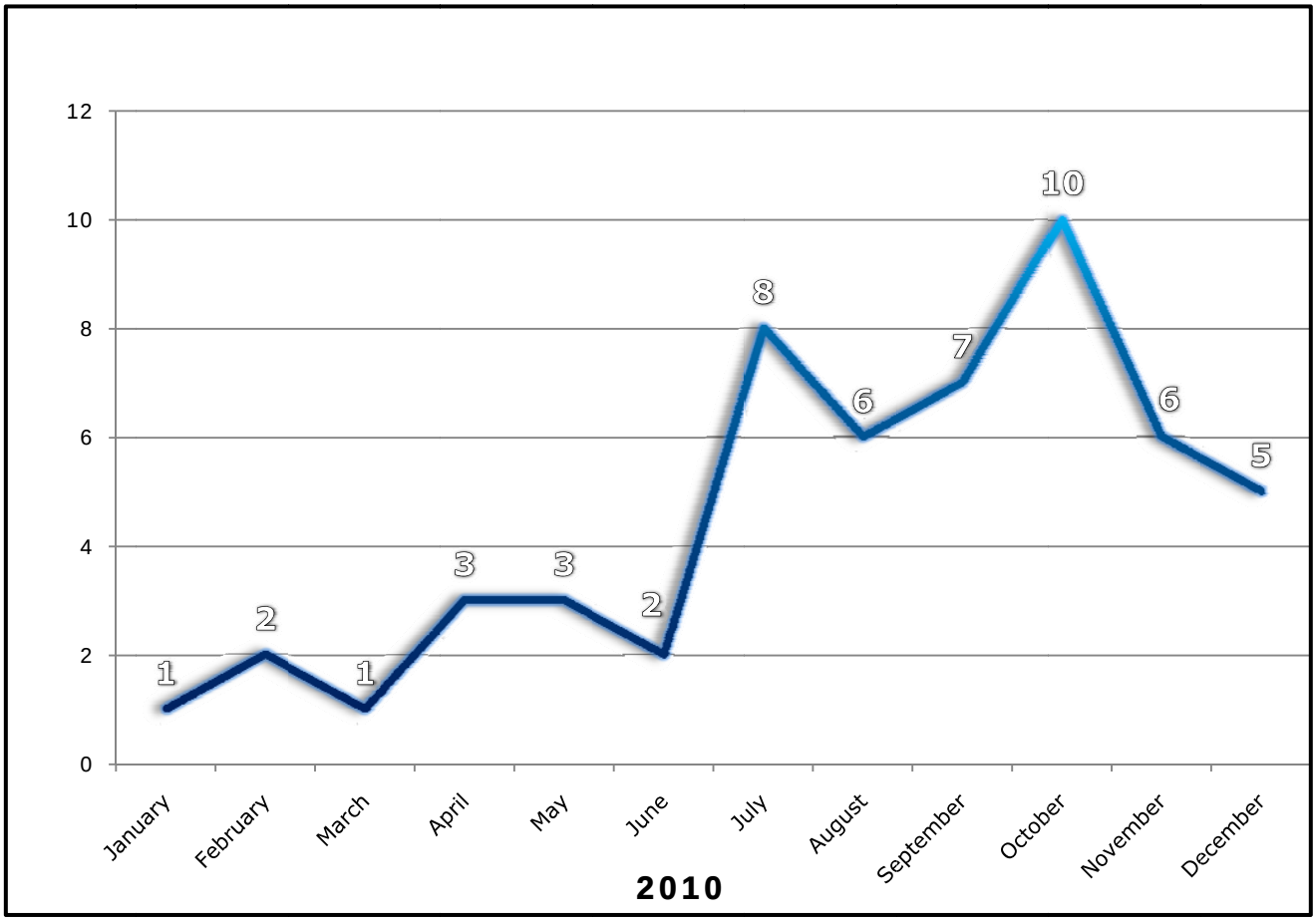


Figure 2. ORs received during 2010

Figure 2 illustrates the number of received Occurrence reports during 2010 for each month. It is evident that the amount of reports received is much greater in the second half of the year.

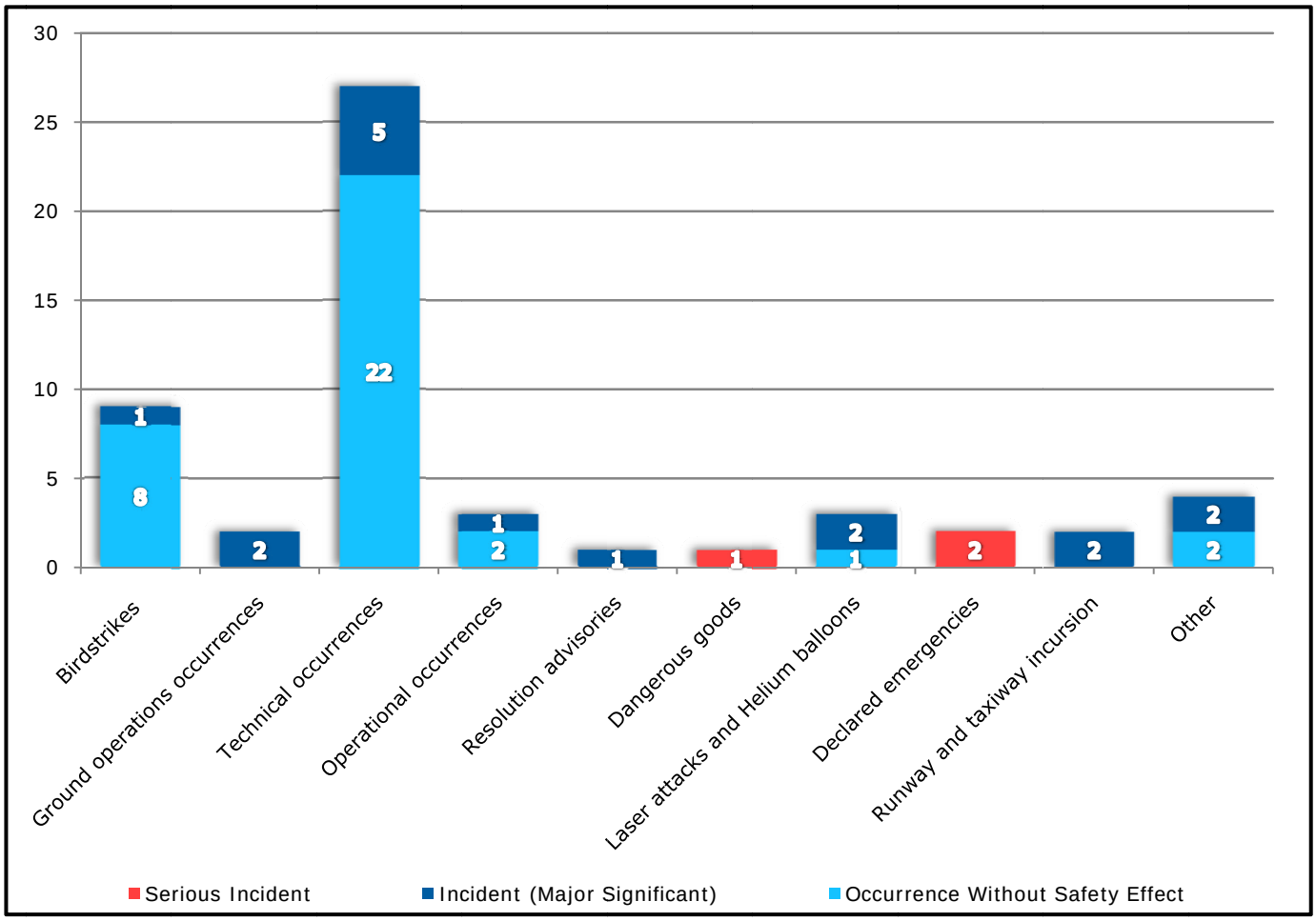


Table 1. Number of received ORs in 2010 according to occurrence class and category

Category	Occurrence Without Safety Effect	Incident (Major or Significant)	Serious Incident	Total
Birdstrikes	8	1	0	**9**
Ground operations occurrences	0	2	0	**2**
Technical occurrences	22	5	0	**27**
Operational occurrences	2	1	0	**3**
Resolution advisories	0	1	0	**1**
Dangerous goods	0	0	1	**1**
Laser attacks and Helium balloons	1	2	0	**3**
Declared emergencies	0	0	2	**2**
Runway and taxiway incursion	0	2	0	**2**
Other	2	2	0	**4**
Total	**35**	**16**	**3**	**54**

Figure 3. ORs received in 2010 according to major categories

Technical Occurrences. Figure 3 and Table 1 show that in 2010 occurrences of technical nature account for around half of the received ORs. Occurrences covering technical failures or defects, mainly related to communication, surveillance and navigation systems, meteorological equipment, etc., are categorized as *Technical Occurrences.* Although these ORs were mostly classified as Occurrences Without Safety Effect (22 of 27), it shows a worrying trend that could lead to more serious occurrences/incidents in the future, if proper measures are not taken.

Birdstrikes. There were 9 reported birdstrikes in 2010, where 8 were classified as occurrence without safety effect and 1 classified as incident, where aircraft had aborted take-off because of engine damage.

Laser attacks and Helium balloons. Due to a few unusual occurrences reported in 2010 concerning laser activity and helium balloons, the CAA has prepared an explanatory note regarding the consequences of the irresponsible use of such devices by the public with respect to civil aviation safety. This note is attached as an appendix to this document. The CAA is preparing a guidance material regarding the use of lasers and helium balloons in the vicinity of aerodromes, which will be soon posted at the CAA official website.

Runway and taxiway incursion. At PIA in 2010 there were two occurrence reports categorized as runway and taxiway incursion. One incident was caused by an unauthorized vehicle entering the maneuvering area, while the other incident was caused by a helicopter crossing the extended centerline of the runway when there was an aeroplane on a long final for the same runway.

Ground operations occurrences. Occurrences related to ground handling (cabin service, catering, ramp service, etc.) are categorized as *Ground operations occurrences.* In 2010 there were two occurrences reported and classified as incidents, one of which caused by ground collision, where highloader hit a parked aircraft.

Declared Emergencies. Three serious Incidents were recorded in 2010, 2 of which were related to this category. A serious incident involving a military twin-engine aircraft was due to an engine failure in flight. After emergency was declared, the plane landed safely at PIA with one engine operating. The other serious incident involving a civil aircraft happened after a tire burst upon landing, and is currently under investigation. No injuries or other damages were reported.

Dangerous goods. In 2010 there was one occurrence report involving dangerous goods at PIA and it is classified as serious incident. The dangerous goods were not labeled in accordance with ICAO Technical Instructions. This occurrence report is currently under investigation.

Figure 4: Some of the Dangerous Goods Labels*

An Airline/Operator shall not transport dangerous goods unless approved to do so by the Authority. Before the issue of an approval for transport of dangerous goods the operator shall satisfy the Authority that adequate training has been given, that all relevant documents (e.g. for ground handling, aeroplane handling, training) contain information and instructions on dangerous goods, and that there are procedures in place to ensure the safe handling of dangerous goods at all stages of air transport. *(EU OPS 1.1155)*

TCAS Resolution Advisories (RA) is a signal for avoiding a collision between two aircraft. Two aircraft transponders determine position relative to each other based on the information exchanged. If this aircraft get to close to each other then they will have TCAS warning. At PIA in 2010 we had one OR related to TCAS Resolution Advisories classified as incident and it is currently under investigation.

***** *Source: http://www.arenburgstransport.com/forms.htm*

APPENDIX

Lasers, Helium Balloons and Aviation Safety

Aviation Industry is faced everyday with many challenges such as weather, traffic delays, etc. However, the aviation community has been working hard to minimize or eliminate the unnecessary challenges that are controllable and caused by persons on the ground. It is understandable that entertainment, advertising, research and development industries are and will be using lasers, helium balloons and other technologies that can be hazardous to flying aircraft, if the necessary steps/guidelines are not taken/followed by the operators.

Lasers and Aviation

When laser beams intersect an aircraft's path, a hazardous situation can result. There are four primary areas of concern: distraction, glare, and temporary flashblindness and eye injuries (for all laser wavelengths). The threat level depends on factors including: type and power of the laser, how the laser is operated, day vs. night, aircraft motion and distance, flight phase, pilot workload and pilot awareness of laser hazards. There are two primary ways to minimize or eliminate these hazards: careful and responsible laser use on the ground to avoid aircraft, and pilot knowledge of procedures to follow in case of accidental or deliberate laser exposure.

Lasers are used in industry, research and science. Examples include atmospheric remote sensing, "guide stars" used in adaptive optics astronomy, and satellite communications and ranging. Lasers and searchlights are used in outdoor entertainment such as the nightly illuminations shows at night clubs. Laser pointers are used by the general public; sometimes they will be accidentally or deliberately aimed at or near aircraft. (Of course, it is never permissible for an unauthorized person to deliberately aim any type of laser at or near an aircraft.).

Primary Hazards of Lasers. There are some subjects which laser/aviation safety experts agree pose no real hazard. These include passenger exposure to laser light, pilot distraction during cruising or other non-critical phases of flight, and laser damage to the aircraft. The main concerns of safety experts are almost exclusively focused on lasers that can temporarily distract or block pilots' vision when they are in a critical phase of flight: take-off, approach, landing, and emergency manoeuvres. A secondary concern is over potential eye injuries to those on-board an aircraft, especially the pilot(s).

Types of visual effects:

1. Distraction and Startle. An unexpected laser or bright light can distract the pilot during a nighttime landing or takeoff. He or she might not immediately realize what was happening. Also, the pilot may be worried that a brighter light or other threat would be coming.
2. Glare and Disruption. As the light brightness increases, it starts to interfere with vision. Veiling glare makes it difficult to see out the windscreen. Night vision starts to deteriorate.
3. Temporary Flashblindness. This works exactly like a bright camera flash: there is no injury, but a portion of the visual field is temporarily knocked out. There may be afterimages -- again, exactly like a bright camera flash leaving temporary spots.

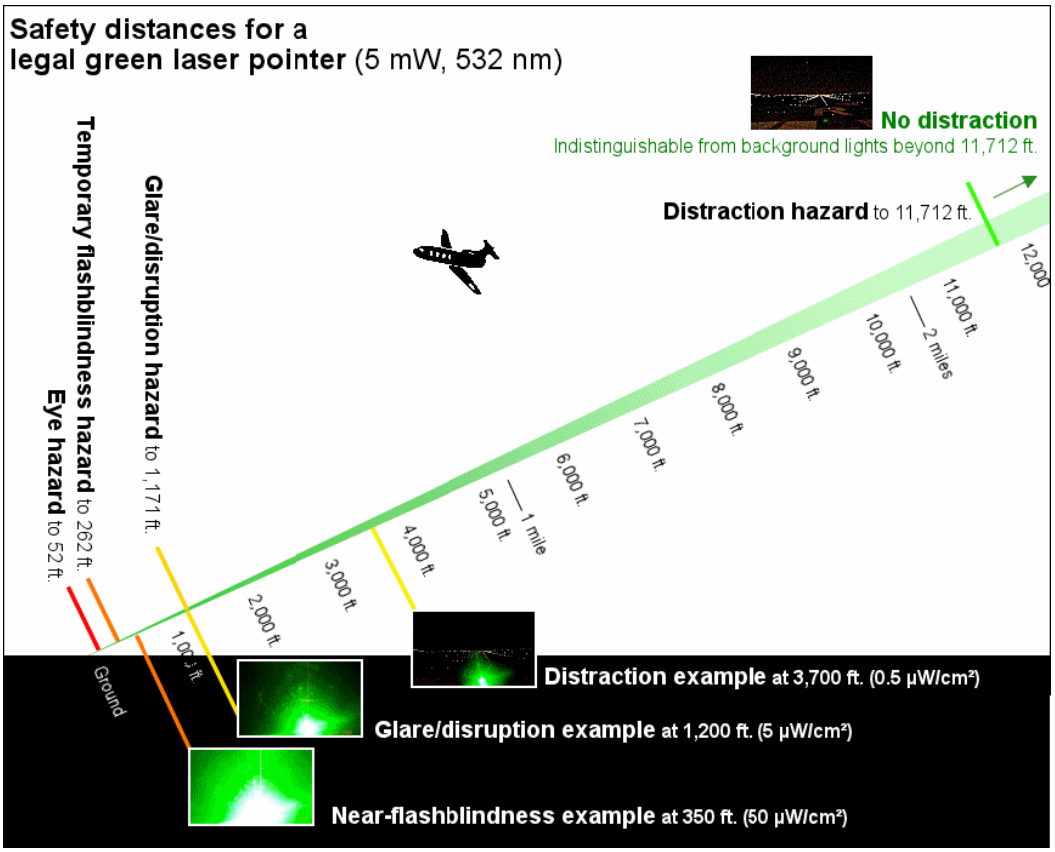
Successful laser/aviation safety requires effort both on the ground, from laser and bright light sources, and in the air, from pilots. While ground-based laser hazards should be reduced as much as possible, there is always the chance of accidental (or deliberate) exposure. In such a case, the pilot should not panic, should avoid looking at or near the beam, and should continue to "fly the plane".

Helium Balloons and Aviation

The release of Helium-Filled Small Balloons is viewed as a valuable source of publicity and/or fundraising at many events. However, the conduct of such activities in the vicinity of aerodromes could present a risk to aviation.

It has been determined that the ingestion of balloons would not have a detrimental effect on a gas turbine engine's performance, regardless of its passage through the engine. However, no matter if any assurances apropos the nil effect of ingestion, pilots will tend to manoeuvre to avoid large concentrations of balloons. Also, for propeller driven aircraft the wire holding the balloons in place would wrap around the planes wings or propellers causing the pilot to loose control.

Therefore, to increase safety awareness and to minimise the potential risk, CAAK is preparing guidelines for the benefit of laser operators, balloon operators, Air Traffic Control and aerodrome managers. Interested parties will soon be able to find these Guidelines published at CAA's website: www.caa-ks.org.



Graphic created by Patrick Murphy for Pangolin Laser Systems.
Extracted from Wikipedia (www.wikipedia.com).