



Republika e Kosovës
Republika Kosovo - Republic of Kosovo



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

Occurrence Reporting Overview

2015



Introduction

The objective of Occurrence Reporting System is to contribute to the improvement of air safety by ensuring that relevant information on safety is reported, collected, analysed, 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, all relevant persons shall report aviation occurrences to the Civil Aviation Authority of the Republic of Kosovo (CAA). 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 years. Furthermore, the operators have their own Safety Management Systems (SMS), which have advanced significantly in the recent years. The SMS usually integrates a component for treating and addressing reported occurrences, enabling the industry to contribute directly to the collection and analysis of safety-related occurrences.

The CAA has set up and uses the 5th version of ECCAIRS (European Co-ordination Centre for Aviation Incident Reporting Systems) system. The CAA will subsequently integrate its safety data into the EU ECCAIRS central database to facilitate effective analysis and monitoring of safety critical information, in accordance with Regulation 8/2010, which transposes into our national legal order the Commission Regulation (EC) No.1321/2007. Accidents and serious incidents shall also be stored in the CAA ECCAIRS database, subject to the agreed terms and conditions with the Aircraft Accident Incident Investigation Commission of the Republic of Kosovo (AAIIC).

This report contains Occurrence Report (OR) statistics for 2015, a short explanation of each category and a short description of few occurrences.

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.

Occurrence without safety effect

A possibly safety related occurrence not meeting the reporting requirements. This could be e.g. the result of downgrading the incident after review.

Occurrence Categories

For the purpose of this publication, occurrences are categorised based on ICAO's ADREP 2000/ECCAIRS taxonomy.

ADRM	Aerodrome (Aerodrome design, service, or functionality issues are evident)
AMAN	Abrupt manoeuvre (The intentional abrupt manoeuvring of the aircraft by the flight crew)
ARC	Abnormal runway contact (Any landing or take-off involving abnormal runway or landing surface contact)
ATM	ATM/CNS (Air traffic management (ATM) or communications/navigation/surveillance (CNS) service issues are evident)
BIRD	Birdstrike (Occurrences involving collisions / near collisions with bird(s)/wildlife)
CABIN	Cabin safety events (Miscellaneous occurrences in the passenger cabin of transport category aircraft)
CFIT	Controlled flight into or toward terrain (Inflight collision or near collision with terrain, water, or obstacle without indication of loss of control)
CTOL	Collision with obstacle(s) during take-off and landing (Collision with obstacle(s), during take-off or landing whilst airborne)
EVAC	Evacuation (An air carrier occurrence where either (a) person(s) are seriously or fatally injured during an evacuation, or (b) an unnecessary evacuation was performed)
EXTL	External load related occurrences (Occurrences during or as a result of external load or external cargo operations)
F-NI	Fire/smoke (non-impact) (Fire or smoke in or on the aircraft, in flight or on the ground, which is not the result of impact)
F-POST	Fire/smoke (post-impact) (Fire/Smoke resulting from impact)
FUEL	Fuel related (One or more powerplants experienced reduced or no power output due to fuel exhaustion, fuel starvation/mismanagement, fuel contamination/wrong fuel, or carburettor and/or induction icing)
GCOL	Ground Collision (Collision while taxiing to or from a runway in use)
GTOW	Glider towing related events (Premature release, inadvertent release or non-release during towing, entangling with towing, cable, loss of control, or impact into towing aircraft / winch)
ICE	Icing (Accumulation of snow, ice, freezing rain, or frost on aircraft surfaces that adversely affects aircraft control or performance)
LA¹	Laser attack
LALT	Low altitude operations (Collision or near collision with obstacles/objects/terrain while intentionally operating near the surface (excludes take-off or landing phases))
LOC-G	Loss of control - ground (Loss of aircraft control while the aircraft

¹ For the purpose of this publication this category has been used in addition to the official ICAO ADREP 2000 taxonomy

	is on the ground)
LOC-I	Loss of control - inflight (Loss of aircraft control while inflight)
LOLI	Loss of lifting conditions en-route (Landing en-route due to loss of lifting conditions)
MAC	AIRPROX/near miss/mid-air collision (AIRPROX/loss of separation/near miss/mid-air collision)
RAMP	Ground Handling (Occurrences during (or as a result of) ground handling operations.)
RE	Runway excursion (A veer off or overrun off the runway surface)
RI-A	Runway incursion - animal (Collision with, risk of collision, or evasive action taken by an aircraft to avoid an animal on a runway in use)
RI-VAP	Runway incursion - vehicle, a/c or person (Any occurrence at an aerodrome involving the incorrect presence of an aircraft, vehicle or person on the protected area of a surface designated for the landing and take-off of aircraft.
SCF-NP	System/component failure or malfunction [non-powerplant] (Failure or malfunction of an aircraft system or component - other than the powerplant)
SCF-PP	Powerplant failure or malfunction (Failure or malfunction of an aircraft system or component - related to the powerplant)
SEC	Security related (Criminal/Security acts which result in accidents or incidents (per the International Civil Aviation Organization [ICAO] Annex 13)
TURB	Turbulence encounter (In-flight turbulence encounter)
UIMC	Unintended flight in IMC (Unintended flight in Instrument Meteorological Conditions (IMC))
USOS	Undershoot/overshoot (A touchdown off the runway surface)
WSTR W	Windshear or thunderstorm. (Flight into windshear or thunderstorm)
OTHR	Other (Any occurrence not covered under another category)
UNK	Unknown or undetermined (Insufficient information exists to categorize the 99 occurrence)

Statistics

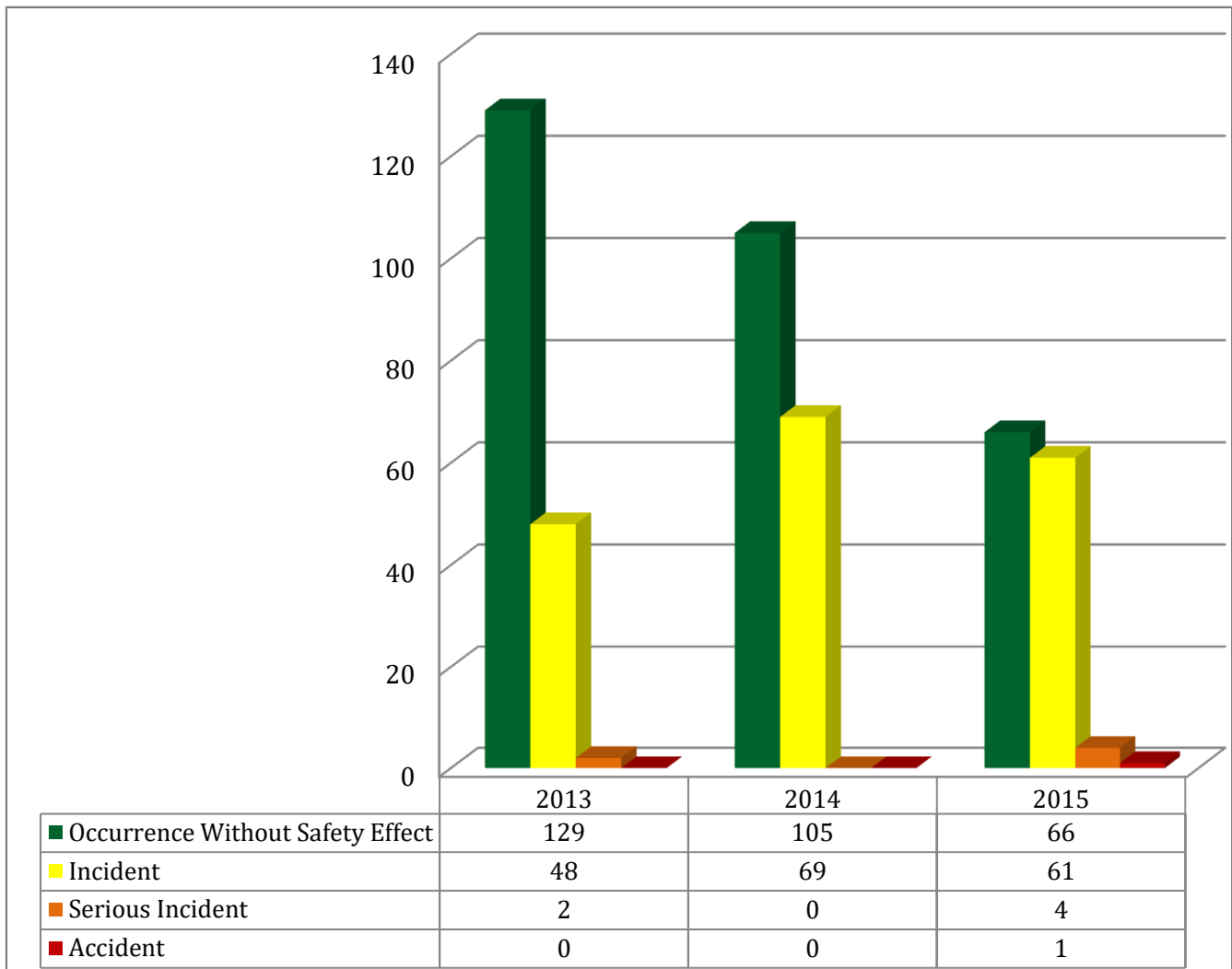


Figure 1. Number of ORs received in 2015 according to occurrence class

During 2015 a total of 132 occurrences were reported to the CAA, out of which 66 were classified as "Occurrence Without Safety Effect", 61 were classified as "Incident", 4 were classified as "Serious Incident" and 1 as "Accident".

As shown in Figure 1, the number of reported occurrences in 2013, 2014 and 2015 classified as incident is consistent through the years. A contributing factor to the overall number of incidents in 2015 is the high number of occurrences related to laser attacks, around 30 % of the total number of reported occurrences. On the other hand, a small number of reported birdstrikes compared to the last years played a major role in significantly decreased number of occurrences without safety effect.

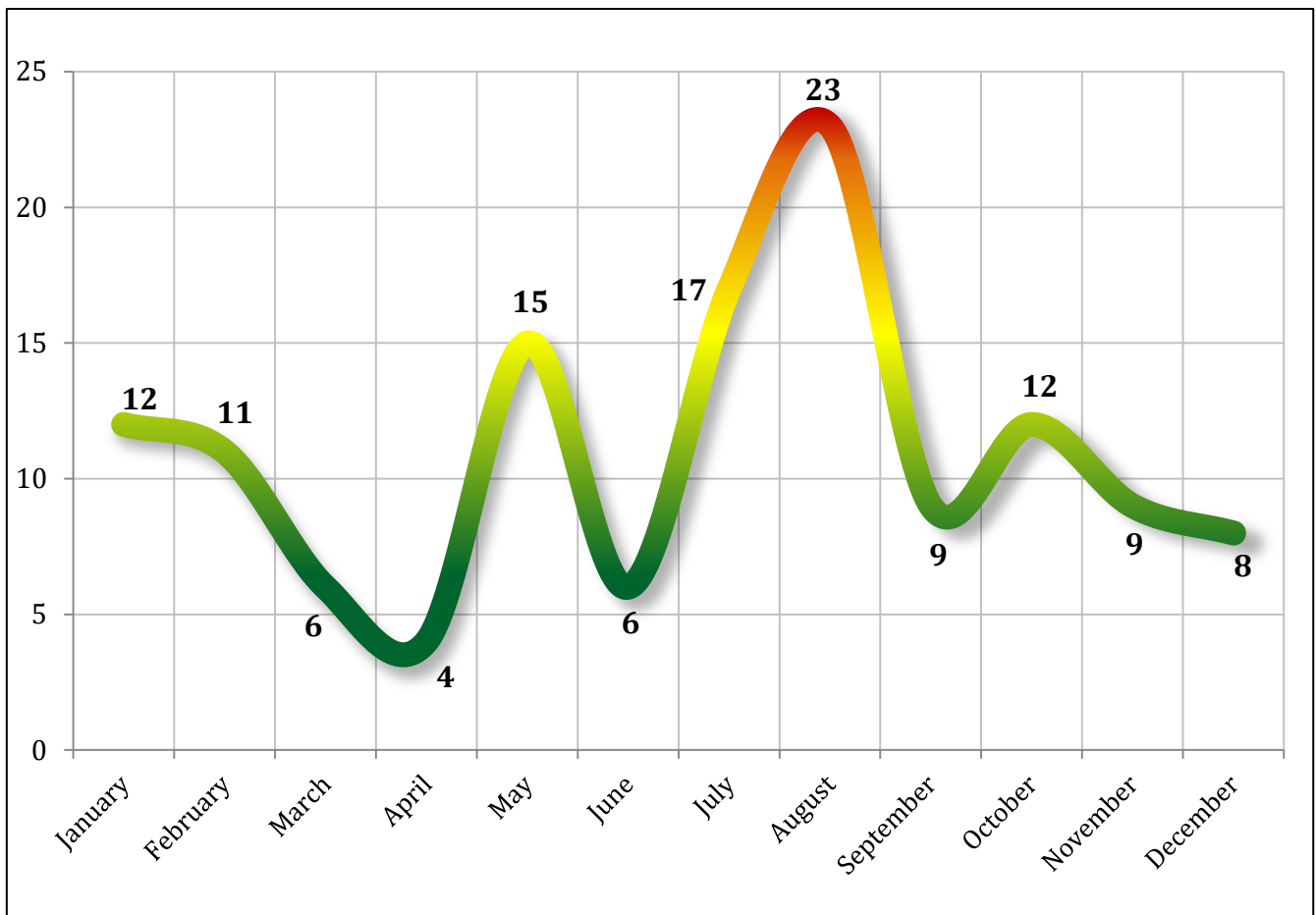


Figure 2. ORs received during 2015

Figure 2 shows the number of occurrence reports received by CAA on monthly basis during 2015. The sharp increase in reported occurrences during July and August coincides with the increased aircraft activities during the high peak season at Prishtina International Airport "Adem Jashari" (PIA "Adem Jashari"). A contributing factor for this increase can mainly be attributed to the high number of laser attacks around PIA "Adem Jashari". A return to average levels can be observed in following months until the end of the year.

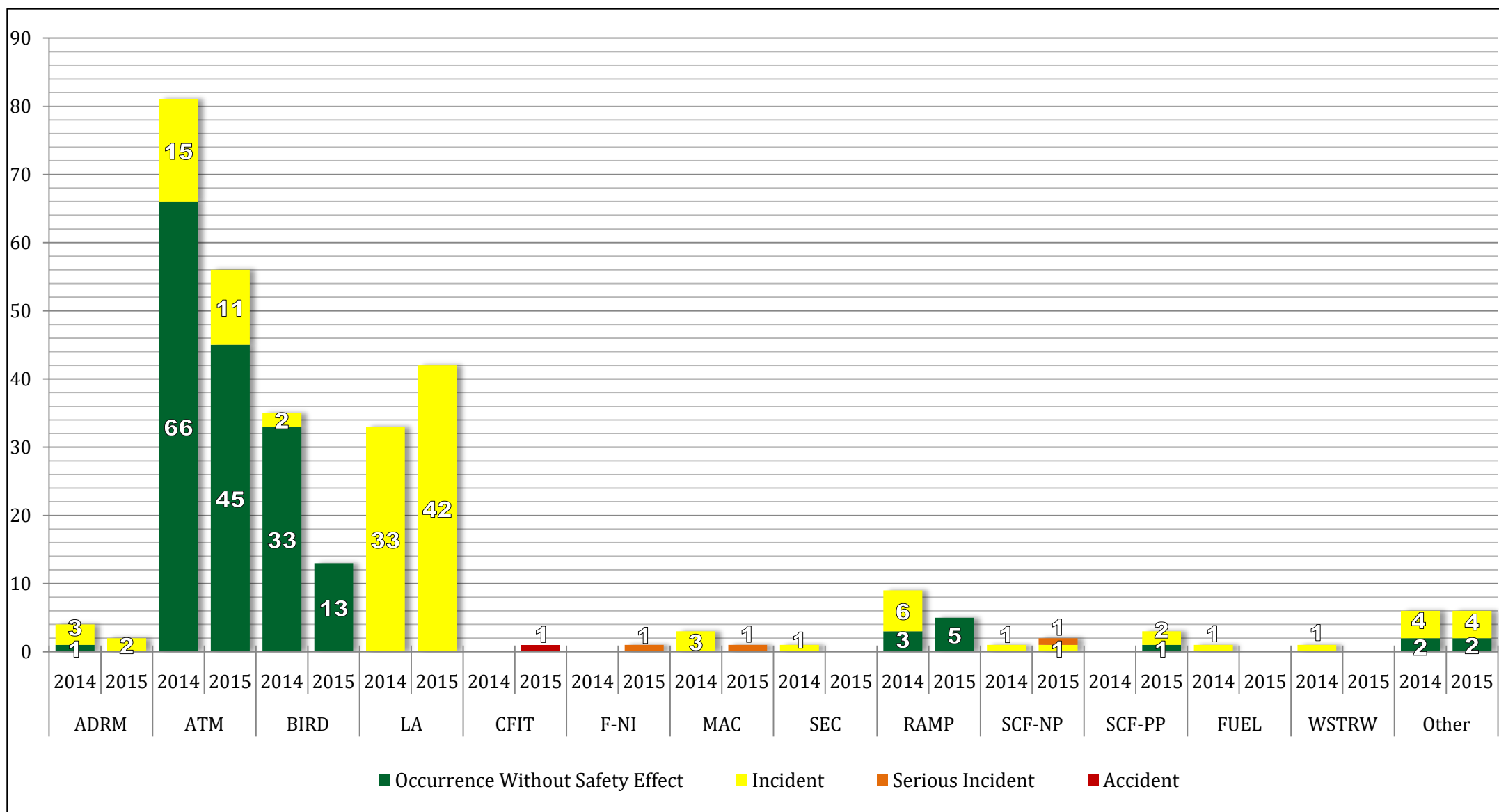


Figure 3. Breakdown of reported occurrences in 2014 and 2015 by category and severity classification

	Occurrence Without Safety Effect	Incident	Serious Incident	Accident	Total
ADRM	0	2	0	0	2
ATM	45	11	0	0	56
BIRD	13	0	0	0	13
CFIT	1	0	0	1	1
F-NI	0	0	1	0	1
MAC	0	0	1	0	1
RAMP	5	0	0	0	5
SCF-NP	0	1	1	0	2
SCF-PP	1	2	1	0	4
LA	0	42	0	0	42
OTHR	2	4	0	0	6
Total	66	62	4	1	133²

Table 1. ORs received during 2015 according to categories and classes

Observing the trend of received reports in 2015 in Figure 3 and Table 1, it can be noted that a significant portion of the reported occurrences (over 40%) are related to the ATM system and procedures, including Aeronautical Information and Meteorological Services. Out of these occurrences, around 80% were classified as occurrences without safety effect and the rest were classified as incidents. The second most reported occurrences are related to laser attacks, which comprise around 30% of the overall number of reported occurrences. The high number of reported laser attacks raises concerns, since all are classified as incidents due to the severe effects they may have on the safety of aircraft operations. Around 70% of overall reported occurrences classified as incidents are related to laser attacks.

More details regarding reported occurrences can be found in the sections dedicated to each category.

² The total number of occurrences was 132, but one of them belongs to two categories.

ADRM (*Aerodrome*). In this category are included occurrences associated with runways, taxiways, ramp area, parking areas, buildings and structures, Crash/Fire/Rescue (CFR) services, obstacles on the Aerodrome property, power supply, lighting, markings, signage, procedures, policies, and standards. Occurrences from this category do not necessarily involve an aircraft.

There were two reported occurrences classified as incidents, out of which one occurrence has been associated with two categories, ADRM and ATM.

One incident was reported by ATC for the contradictory and confusing reports received from the airfield operation services after the inspection of the Runway Surface Condition. The incident was resolved with no harm to aircraft or persons.

ATM (*Air traffic management (ATM) and communications/navigation/surveillance (CNS)*).

Table 1 and Figure 3 show that during 2015 occurrences concerning ATM systems and procedures (including Aeronautical Information and Meteorological Services) account for over 40% of the occurrences reported during 2015.

Occurrences covering technical failures or defects, mainly related to communication, navigation, surveillance, meteorological equipment, aeronautical information systems etc., are included here, as well as any other occurrence pertaining to or involving ATM procedures and systems.

During 2015, the problems with the meteorological equipment were the most prominent, accounting for 39% of the overall ATM occurrences. Most of these occurrences concerned short-term equipment failure of the automatic observation system (65%), the weather forecasting system (15%) or failure of supporting functions such as AFTN/Internet affecting meteorological services. While these were all classified as occurrences without safety effect, a handful of occurrences (4 out of 23) were classified as incidents as they concerned incorrect or discrepancy between reported data and observed meteorological conditions, mainly concerning the Runway Visibility Range (RVR). RVR is an important meteorological parameter especially in triggering the start of Low Visibility Procedures operations. It is measured and reported by special sensors which are part of the automatic weather observation system (AWOS). When the weather is especially foggy and visibility low, it is also used by the pilots to make landing and take-off decisions. Therefore, it is imperative that the RVR value is reported correctly to the users. The 4 reported occurrences concerning incorrect RVR values were classified as incidents because they affected several flights and increased the workload of the ATC. As a result of the investigation on these occurrences, the Meteorological Department has also put in place additional back-up procedures to verify and double check values reported by the automatic weather observation system. The condition of the equipment, its age and lack of spare parts remains a challenge for the ANSP. However, the ANSP has taken necessary measures to maintain the equipment in service, and in the future, it plans to procure a new automatic weather observation system.

Occurrences related to communication systems other than AFTN and VCSS (Other Communication Systems) were the second most reported. All of these occurrences mainly concerned technical problems which usually lasted for short periods of times (in the order of minutes) and had no safety impact.

It is worth noting that most of the sub-categories except the Meteorological Services have experienced sharp declines in number of reported occurrences compared to the last two years, as can also be observed in Fig. 5. This improvement can be largely contributed to the investments the ANSP has made in procuring new systems and upgrading old ones such as the new Mode S radar system, new VCSS, new ATIS and dedicated phone lines.

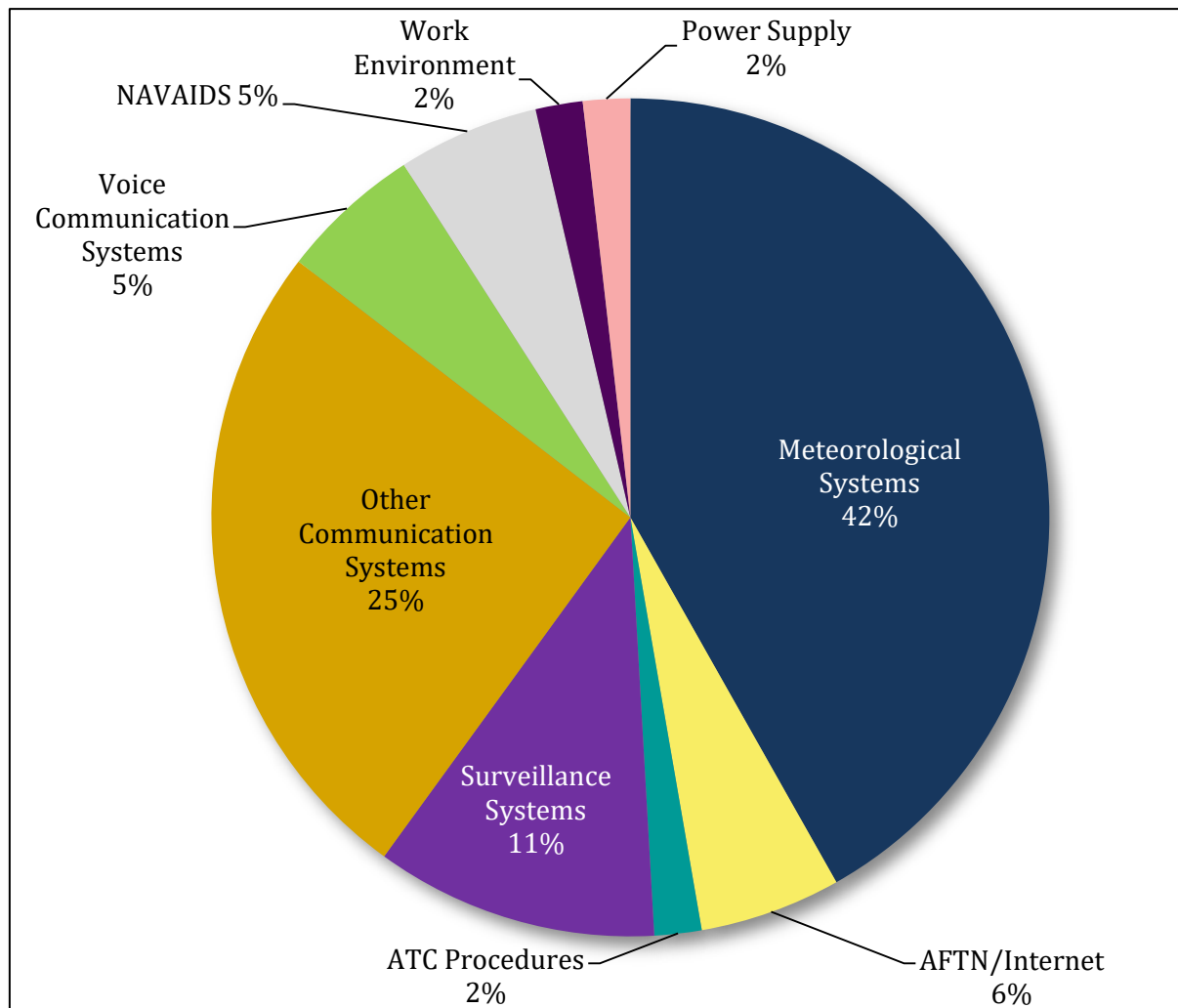


Figure 4. A breakdown of the reported ATM occurrences per sub-category

Few occurrences reported in 2015 were related to ATC Procedures (1), Work Environment (1), Navigation Systems (3) and Power Supply (1).

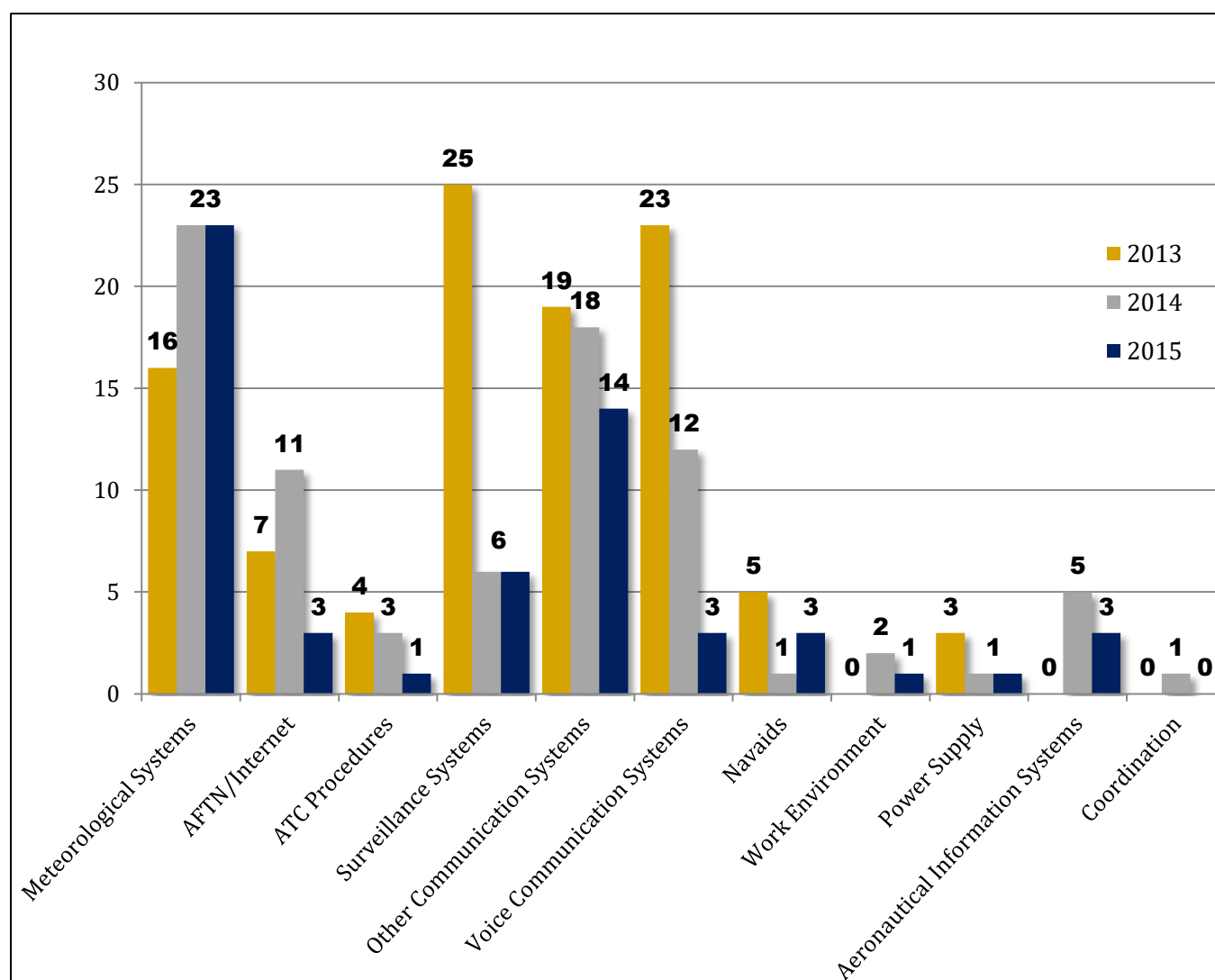


Figure 5. A comparison of the reported ATM occurrences between 2013, 2014 and 2015

The significant number of reports was helpful in identifying trends regarding equipment and other aspects of air navigation services and systems, both by the Air Navigation Service Provider (ANSP) and the CAA, enabling the ANSP to address these issues more carefully and ensure that proper measures were taken to mitigate the problems.

It is worth noting that there is a consistency in the number of reported occurrences in this sub-category compared to the previous years, which is an indication that reporting continues to be widespread in the industry, especially the ANSP, due to raised awareness regarding benefits from occurrence reporting and its clear contribution to the improvement of safety.

BIRD (*Birdstrike*). This category includes a collision/near collision with or ingestion of one or several birds. Unconfirmed birdstrikes are also included in this category.

During 2015 there were 13 reported birdstrikes, all classified as occurrences without safety effect.

Figure 6 shows the trend of reported birdstrikes per each month during 2013, 2014 and 2015.

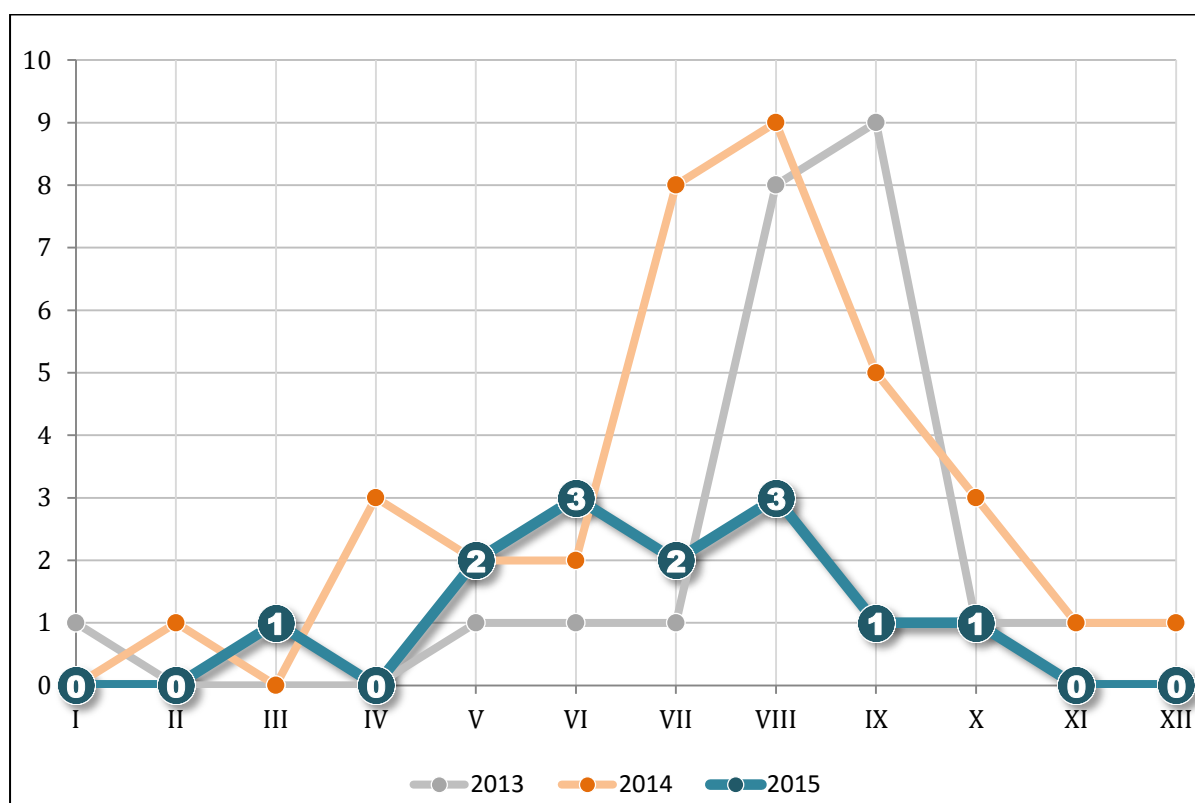


Figure 6. Reported birdstrikes during 2013, 2014 and 2015

As shown above, the number of reported birdstrikes has significantly decreased during this year. This improvement can be mainly attributed to several factors including improved habitat management and active control of wildlife by the PIA “Adem Jashari” aerodrome operator.

LA (Laser Attack). There were 42 laser attack reports submitted to CAA in 2015 and they were all classified as incidents. Some of those reports contain two or more laser attacks occurring during the same flight. Most of the events occurred during approach and departure phase of flight, when aircraft operate at low altitudes. All aircraft involved landed safely at Prishtina International Airport or flew safely to their destination.

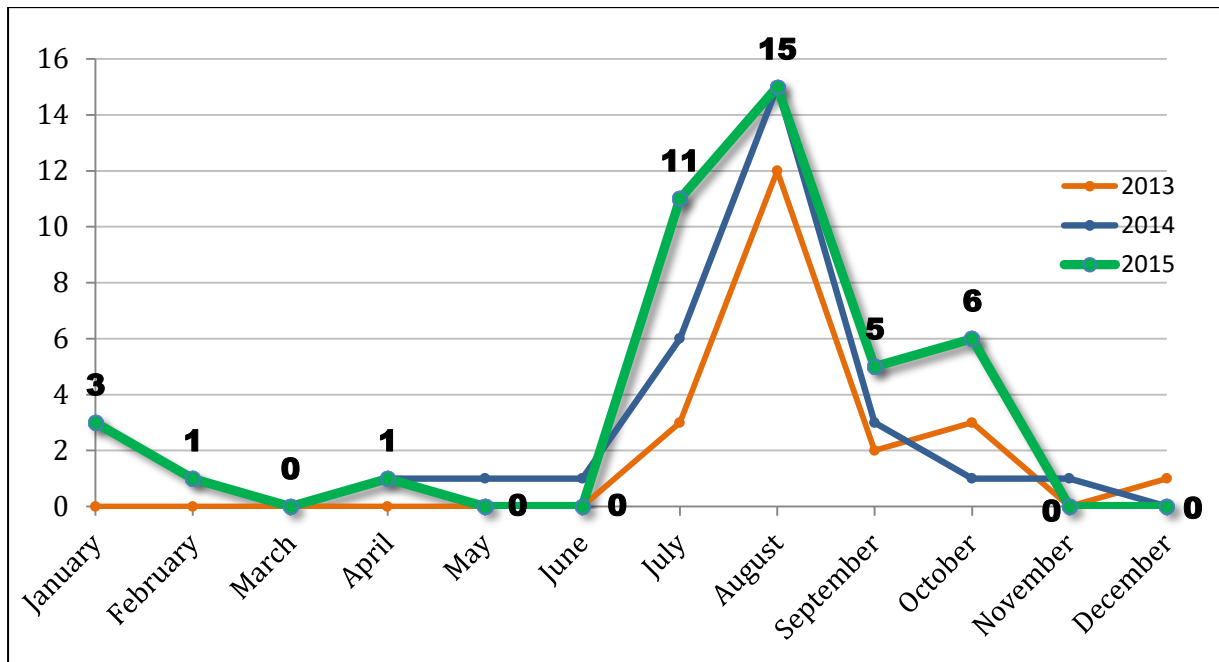


Figure 7. Reported laser attacks during 2013, 2014 and 2015

The number of occurrences with laser attacks has increased by 9 in 2015 in comparison with 2014. These kinds of attacks are carried out deliberately by individuals and pose great hazard to the safe operation of aircraft when exposed in flight.

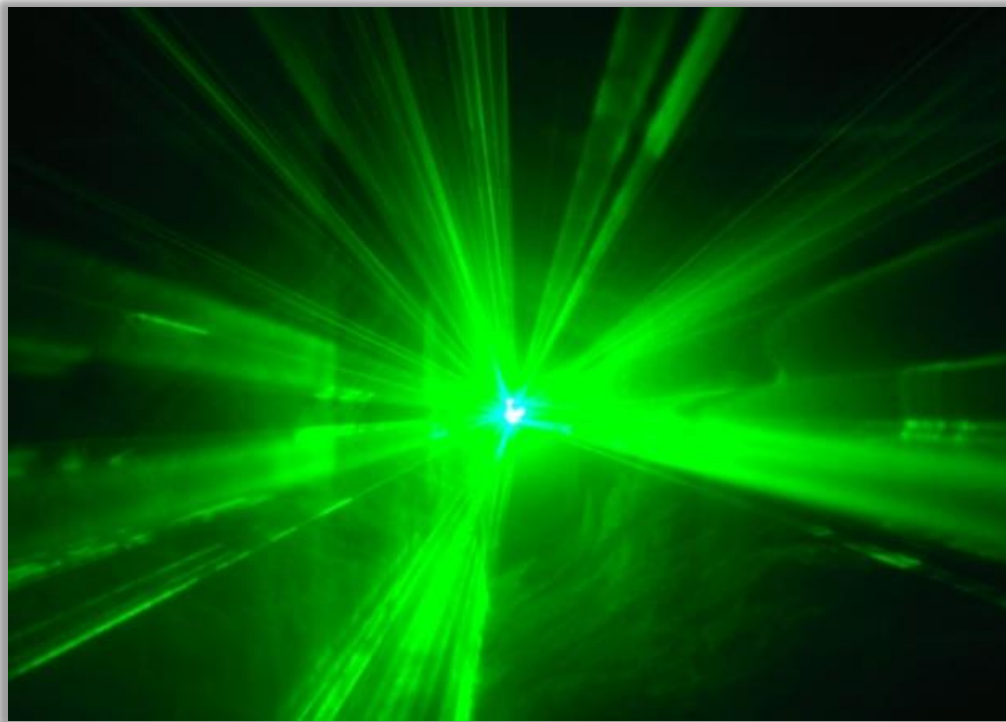


Photo 1: A picture showing the effects of a laser pointer in a cockpit.

©<http://www.sleafordstandard.co.uk/news/local/plane-put-in-danger-by-laser-beam-attack-1-6689229>

Shining a laser at an aircraft in flight is a serious risk to the safety of passengers and crew, as well as people living close to airports. During critical phases of flight, such as take-off and landing, pilots need to employ maximum concentration.

Being dazzled and temporarily blinded by an intense light could potentially lead to flight crew losing control of the aircraft.

Pointing a laser at an aircraft is now a specific criminal offence and we strongly urge anyone who observes such activity at night, especially in the vicinity of an airport, to contact the police immediately.

In an attempt to minimize laser attacks, the Civil Aviation Authority of Kosovo, in coordination with Kosovo Police, has communicated a safety press release on the national televisions and newspapers with warnings about dangers that laser attacks impose on flying aircraft. Also, in 2013 a Memorandum of Understanding was signed between CAA, Kosovo Police and Air Navigation Service Provider in order to coordinate the actions when an aircraft is exposed to laser attack.

MAC (*AIRPROX/near miss/mid-air collision*) *Occurrences related to loss of separation, near miss, mid-air collision.* They include all collisions between aircraft while both aircraft are airborne; both air traffic control and cockpit crew separation-related occurrences are included; they are used for AIRPROX reports; genuine TCAS alerts are also included here.

There was one MAC occurrence reported during 2015 and it was classified as a serious incident. The MAC occurrence involved a helicopter during training flight and a commercial airliner on final approach at PIA "Adem Jashari". ATC gave instructions to the helicopter pilots to expedite their take-off, but the helicopter took too long to initiate the take-off, causing loss of separation between the helicopter and the approaching airplane.

Because of this occurrence, ATC procedures for helicopter operations at PIA "Adem Jashari" are being evaluated.

CFIT (*Controlled flight into or toward terrain (Inflight collision or near collision with terrain, water, or obstacle without indication of loss of control)*).

There was one accident during 2015 involving a civilian helicopter. The accident occurred while the helicopter was conducting closed traffic operations/training flight at PIA "Adem Jashari". There were no fatalities, only minor injury to technical crew. The accident is currently under investigation by the AAIIC - Aeronautical Accidents and Incidents Investigation Commission.

F-NI (*Fire/smoke (non-impact) (Fire or smoke in or on the aircraft, in flight or on the ground, which is not the result of impact)*).

One serious incident that involved smoke in the cockpit of a military aircraft was reported. The aircraft had declared emergency, however, the pilots landed the aircraft safely at PIA "Adem Jashari".

SCF-NP (*System/component failure or malfunction [non-powerplant] (Failure or malfunction of an aircraft system or component - other than the powerplant)*).

There were two occurrences reported with aircraft components failure or malfunctioning. The first one was classified as a serious incident and the second was classified as an incident. The serious incident involved an aircraft that departed PIA "Adem Jashari" and had to return back for landing due to engine bleed system malfunctioning. In both cases the aircraft landed safely.

SCF-PP (*Powerplant failure or malfunction (Failure or malfunction of an aircraft system or component - related to the powerplant)*).

There were four occurrence reports entered on the group of failures or malfunction of an aircraft system or component related to powerplant. One of them, involving a rapid loss of oil pressure on one of aircraft's engines after it had departed PIA "Adem Jashari", was classified as a serious incident. Other two occurrence reports, involving fuel leak, were classified as incidents. Both incidents were noticed by the ramp operations staff and reported to the pilots. The last occurrence report, involving a precautionary aborted take-off, resulted with an engine check that showed that all parameters were normal. It has been classified as an occurrence without safety effect. In all the above occurrences, it was considered that safety was not seriously jeopardised.

RAMP (*Ground Handling*) Occurrences related to ground handling (during or as a result of ground handling) include collisions that occur while servicing, boarding, loading, and deplaning the aircraft, propeller/rotor/fan blade strikes, pushback/powerback/towing events, jet blast and prop/rotor wash, aircraft external pre-flight configuration errors and all parking areas (ramp, gate, tiedowns).

There were 5 RAMP occurrences reported during 2015, all classified as occurrences without safety effect.

Two occurrences were associated with scratching of aircraft fuselage; one occurrence was related to aircraft push-back without requesting approval from ATC; one occurred due to the insertion of wrong aircraft registration on load-sheet; one occurrence was about the incoming damaged package with lithium-ion battery noticed during aircraft offloading. In all the above cases, it was considered that safety was not jeopardised.

OTHR (Other). Reported occurrences which do not strictly fall in any of the categories listed above, are categorized in this category. In 2015, there were 6 such reports, 4 of which were classified as incidents.

Two of the incidents were related to airspace infringements. These occurrences have been investigated and the necessary measures were undertaken to prevent such occurrences from reoccurring in the future. Another incident in this category concerned the presence of a drone during the short final of an aircraft. A short introduction about drones and their regulation is included as an appendix to this report. The fourth incident concerned an unauthorised landing at one of the airfields which is closed for operation. Although the landing ended safely, the occurrence has been investigated and mitigation measures were taken as necessary. The two occurrences classified as occurrences without safety effect concerned problems with flight plans and flight permits.

APPENDIX A

Flying Drones (UAS - Unmanned Aircraft Systems)

Drones are fun to operate and fly. They can bring out the inner kid in even the most jaded individual; however, they can also get people in a lot of trouble with the Authorities. There are some things every new drone owner should know and consider before taking to the skies.

Traditional Remote Control (R/C) model airplanes and helicopters are time-tested hobbies that require patience and dedication. True R/C hobbyists often devote thousands of euros and hours to their passion.

Drones, or Unmanned Aircraft Systems (UAS), on the other hand, are relatively and generally pretty easy to operate and well within the budgets of many ordinary people. That's not to say, drones don't require significant skill, practice, and patience to master. On the contrary, their simplicity is deceptive and to that end, many new drone owners go into them with unreasonable expectations.



Here's something that many people don't know or realize, if you're not fully and well-informed of UAS dos and don'ts, you can end up in a lot of trouble. You can break the law and face charges if you're flying in the wrong place at the wrong time. You can face hefty fines if you hit or endanger pedestrians and property. The point is, bad stuff can happen if you don't know what you're doing and if you're not aware of the laws and practical points of safe UAS flying.

Where Can and Can't I Fly?

Questions above are best answered by CAA Regulation No. 06/2014 on Remotely Piloted Aircraft Systems-RPAS weighing less than 20 kg. This Regulation has laid down the details on the Drone operations within the Republic of Kosovo. Article 5 of the above mentioned regulation states the following general conditions:

For flights with RPAS the following shall apply:

- a) The flight must be performed in such way that no other persons or property are endangered and that the surroundings are inconvenienced as little as possible;
- b) The flight must be performed within 500 meters of the operator at all times;
- c) Clear of controlled airspace, unless with ATC permission;


- d) Clear of any aerodrome traffic zone, unless with ATC permission;
- e) Clear of any military airbase or restricted/prohibited areas;
- f) The distance to built-up areas and major public roads shall be at least 150 m;
- g) The flight level must not exceed 100 m above terrain;
- h) Densely built-up areas, including areas with weekend cottages and inhabited camping sites, and areas with large open-air assemblies of persons must not be overflown;
- i) The particularly environmentally sensitive nature areas must not be overflown.



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Prior to any operation with a small unmanned aircraft, it is important to be fully informed and seek instruction from other UAS enthusiasts or Civil Aviation Authority. If there is an R/C aircraft group in your area, they'll most likely have a presence where you can contact them. Don't be afraid to reach out to them for advice and support when pursuing your new hobby.

<http://www.caa-ks.org/index.php/en/component/content/article/51-regulations/439-regulation-06-2014-rpas-weighting-less-than-20-kg>
<https://easa.europa.eu/unmanned-aircraft-systems-uas-and-remotely-piloted-aircraft-systems-rpas>
<http://www.faa.gov/uas/>
<http://www.howtogeek.com/213159/what-you-need-to-know-before-flying-a-drone/>

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March 2016

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