



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

Occurrence Reporting Overview 2016



Introduction

The Occurrence Reporting System aims to improve aviation safety by ensuring that relevant safety information relating to civil aviation is reported, collected, stored, protected, exchanged, disseminated and analysed. The sole objective of occurrence reporting is the prevention of accidents and incidents and not to attribute blame or liability. The information collected is adequately protected from unauthorised use or disclosure, and it is used strictly for the purpose of maintaining and improving aviation safety.

Pursuant to Regulation No. 1/2009 on Occurrence Reporting in Civil Aviation, which transposes into the internal legal order of the Republic of Kosovo the Directive 2003/42/EC, all relevant persons shall report aviation occurrences to the Civil Aviation Authority of the Republic of Kosovo (CAA). This reporting contributes to the improvement of the safety of civil aviation through better understanding of these occurrences to facilitate analysis and trend monitoring so that appropriate and timely preventive action can be taken and aviation safety improved.

Occurrence Reporting System has been established in Kosovo in 2006. By strict application of rules on confidentiality, protecting the source of safety information and ensuring the confidence of staff working in civil aviation in occurrence reporting systems, the CAA has developed a relationship of trust with the reporters, and consequently contributed to improvement of the quality of occurrence reports. 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 manages its own database (Kosovo national database) using the ECCAIRS (European Coordination Centre for Aviation Incident Reporting Systems) software to store occurrence reports (in this report it may be referred to as CAA ECCAIRS database). Accidents and serious incidents are also 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). The CAA will subsequently integrate its relevant civil aviation safety information into the European Central Repository (EU ECCAIRS central database) to facilitate effective analysis and monitoring of safety critical information, in accordance with Regulation 8/2010 On Implementing Rules for the Integration into a Central Repository of Information on Civil Aviation Occurrences exchanged in accordance with Directive 2003/42/EC of the European Parliament and of the Council, (which transposes into the internal legal order of Kosovo the Commission Regulation (EC) No. 1321/2007) once the working arrangements (WA) between the European Aviation Safety Agency (EASA) and the Civil Aviation Authority of Kosovo on occurrence reporting are duly signed.

This Occurrence Reporting Overview contains a short explanation of occurrence classes and categories, an analysis of the Occurrence Report (OR) statistics for 2016, a more detailed description of the occurrence categories assigned to in 2016 and a thorough description of a few occurrences. The Report also contains data comparison analysis of year 2016 and previous years.

Occurrence Classes

The occurrence classes are based on the ICAO 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

Eurocontrol: 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

Eurocontrol: 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

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 the ICAO ADREP 2000 Taxonomy (ECCAIRS Aviation) that is presented below:

ADRM	Aerodrome (Occurrences involving aerodrome design, service, or functionality issues)
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 (Occurrences involving Air traffic management (ATM) or communications, navigation, or surveillance (CNS) service issues)
BIRD	Birdstrike (Occurrences involving collisions / near collisions with birds / 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 (Occurrence where either; (a) person(s) are injured during an evacuation; (b) an unnecessary evacuation was performed; (c) evacuation equipment failed to perform as required; or (d) the evacuation contributed to the severity of the occurrence)
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))

¹ Laser attacks do not have a separate category as per the ICAO ADREP 2000 Taxonomy, they are included in the SEC (security related) category.

LOC-G	Loss of control - ground (Loss of aircraft control while the aircraft is on the ground)
LOC-I	Loss of control - inflight (Loss of aircraft control while or deviation from intended flightpath inflight)
LOLI	Loss of lifting conditions en-route (Landing en-route due to loss of lifting conditions)
MAC	Airprox/ ACAS alert/ loss of separation/ (near) midair collisions (Airprox, ACAS alerts, loss of separation as well as near collisions or collisions between aircraft in flight)
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 or on a helipad/helideck in use)
RI-VAP	Runway incursion - vehicle, aircraft 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)
SEC²	Security related (Criminal/Security acts which result in accidents or incidents (per 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 occurrence)

² The Ministry of Internal Affairs has been designated to handle independently the collection, evaluation, processing, analysis and storage of details of the security related occurrences. However, the CAA remains responsible to handle independently the laser attack occurrences, which are included in this category.

Statistics

The Figure 1 shows the number of occurrence reports received by the CAA on monthly basis during the year 2016. In total there were 130 occurrences reported to the CAA during 2016. The figure shows that there was a constant oscillation of the number of reported occurrences from 4 to 10 per month, during the most part of the year. The period that made an exception ranged from June to August. In June the number of the reports had a small increase to 12, and then it doubled to 20 in July and tripled to 32 in August.

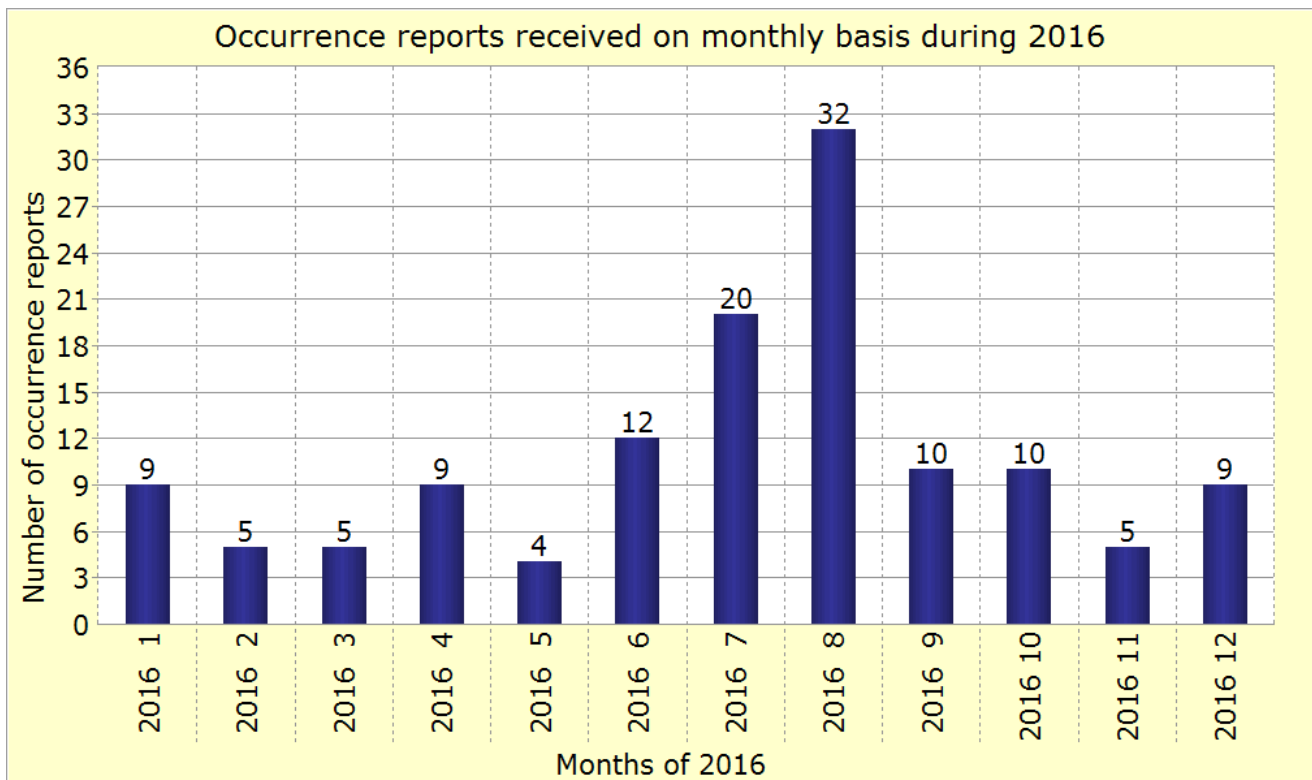


Figure 1. Occurrence reports received during 2016

Otherwise, July and August are traditionally known for being the months with highest aircraft activity during the year at Prishtina International Airport “Adem Jashari” (PIA “Adem Jashari”).

Particularly three categories of occurrences have contributed in increase of the number of the reports from June to August. The category of ‘bird strikes’ (BIRD) has contributed with 8 occurrences in July and 9 in August. The category of ‘laser attacks’ (SEC) has contributed with 2 occurrences in June, 2 in July and 7 in August. While, the category of ‘runway incursions by animals’ (RI-A) (dogs on airfield) has contributed with 6 occurrences in June, 1 in July and 2 in August.

The Figure 2 shows the total number of occurrence reports received by the CAA during the last five years, and their classification based on the severity of their effect on the safe operation of aircraft and occupants.

During the year 2016 there were a total of 130 occurrences reported to the CAA, what represents a slight decrease compared to the number of occurrences reported in 2015 and

2013, and a big decrease compared to the number of occurrences reported in 2014, but a significant increase compared to the number of occurrences reported in 2012. In 2016, exactly on 4th of August, the CAA has received and processed the one-thousandth occurrence report since 2006, when the occurrence reporting system was established in Kosovo, and by the end of 2016 the number of occurrence reports in the Kosovo Database reached a total of 1064 reports.

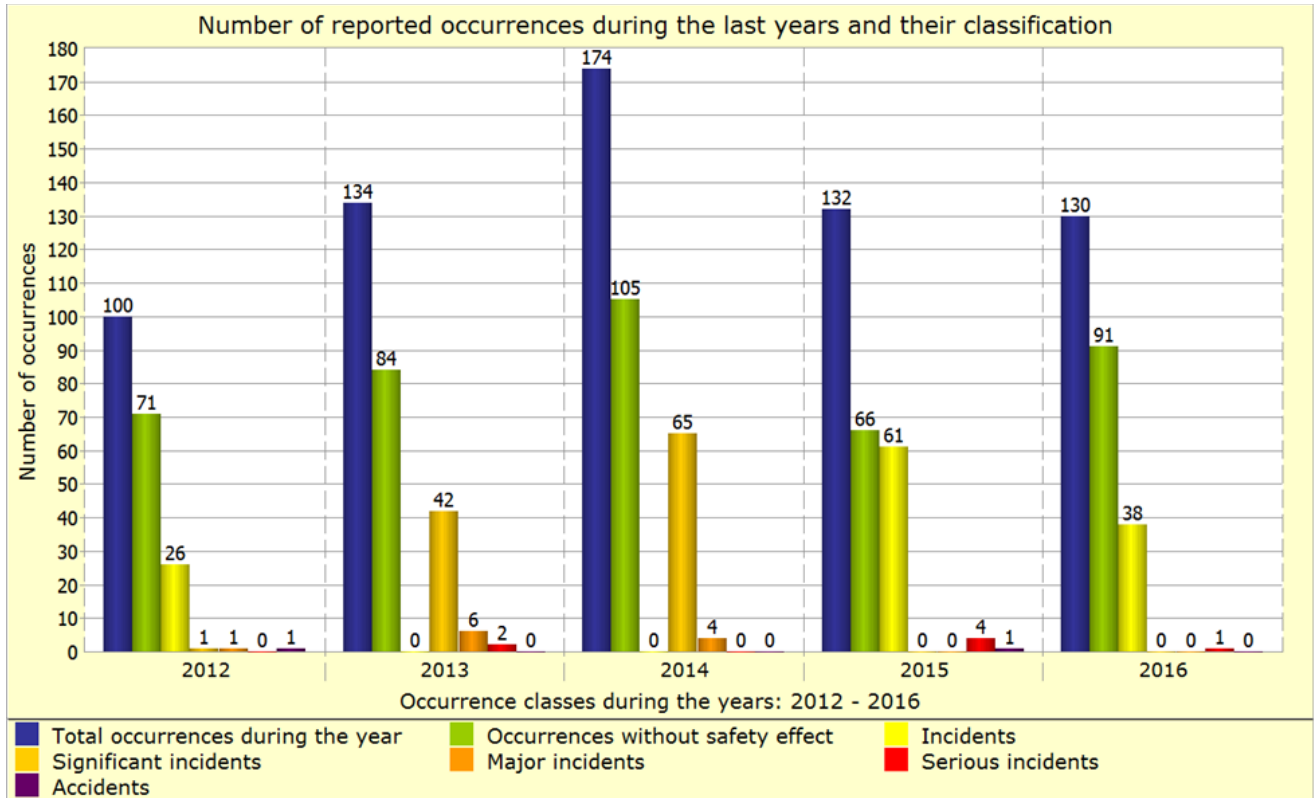


Figure 2. Number of occurrence reports received during the last five years assigned to their occurrence classes

As shown in the Figure 2, out of 130 received occurrences during 2016, 91 occurrences were classified as “Occurrences without safety effect”, 38 were classified as “Incidents” and one occurrence was classified as “Serious incident”, while there were no occurrences classified as “Accidents”. While, during the last two years the CAA hasn’t classified any of the received occurrences as “Significant incidents” or “Major incidents”, but the relevant occurrences were classified as “Incidents”.

The number of the occurrences classified as incidents in 2016 has decreased significantly compared to the number of the occurrences reported in 2015 and in 2014. This has occurred mainly due to the reduced number of the occurrences categorized as laser attacks (SEC) and as ATM/CNS (ATM). While, the number of the occurrences classified as occurrences without safety effect in 2016 has increased significantly compared to the number of occurrences reported in 2015, mainly due to the increased number of the reported bird strikes.

The Figure 3 presents the categorization and classification of the occurrences reported in 2015 and 2016. While, the Table 1 presents the occurrence reports received during 2016 and assigned to their categories and classes.

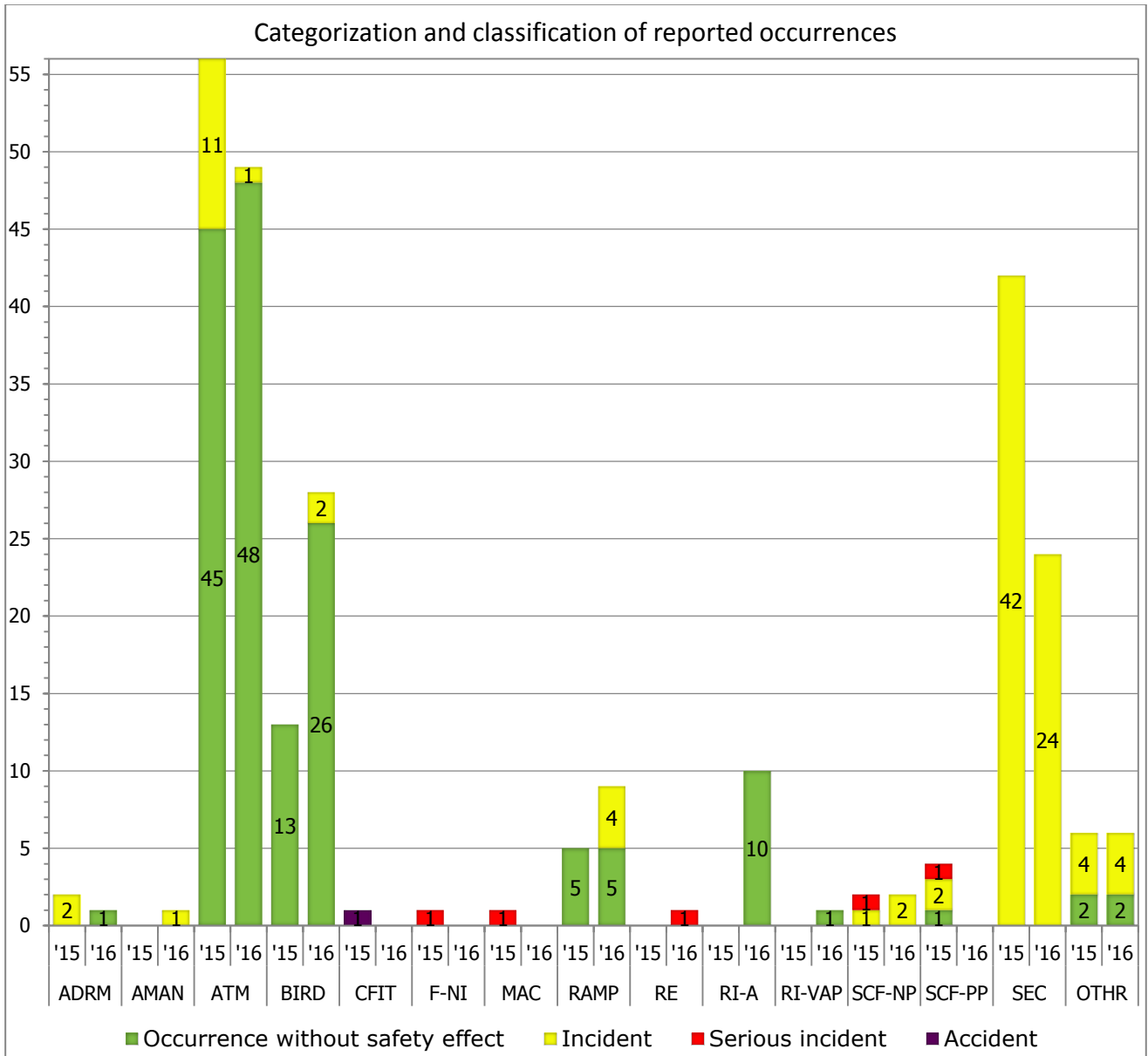


Figure 3. Categorization and classification of the occurrences reported in 2015 and 2016

By examining the categories of the occurrences reported in 2016 in Figure 3, Table 1 and Figure 4, it can be observed that a significant portion of the received reports (around 37%) are attributed to the Air traffic management (ATM) or communications, navigation, or surveillance (CNS) service issues, including aeronautical information and meteorological services. Out of these occurrences, around 98% were classified as occurrences without safety effect and one occurrence was classified as incident.

The second most reported category of occurrences is the Birdstrikes category (BIRD), which comprises around 21% of the overall number of the reported occurrences.

And the third most reported category of occurrences is the Laser attacks ‘category’ (included in the SEC category), which comprises around 18% of the overall number of the reported occurrences. They are all classified as incidents and they constitute around 63% of the overall number of the reported incidents.

Assigned Occurrence Categories

This section presents in depth information about the occurrences reported in 2016 and assigned to the particular categories.

ADRM: Aerodrome. Occurrences involving aerodrome design, service, or functionality issues. This category includes deficiencies/issues 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 of this category do not necessarily involve an aircraft.

There was only one occurrence report assigned to this category. It involved two tractors entering the Glide Path Sensitive Area without prior coordination with ATC. This occurrence was classified as occurrence without safety effect.

AMAN: Abrupt manoeuvre. The intentional abrupt manoeuvring of the aircraft by the flight crew.

There was one occurrence report, concerning a descent of an airplane without being instructed by ATC, which was assigned to this category. The airplane was around 9 NM to PRT and maintaining FL110 when it started descending without being instructed to do so, however, it was stopped by RDR ATCO at FL100.

ATM: ATM/CNS. Occurrences involving Air traffic management (ATM) or communications, navigation, or surveillance (CNS) service issues.

Table 1 and Figure 3 show that during 2016 occurrences concerning ATM systems and procedures (including Aeronautical Information and Meteorological Services) account for around 37% of the occurrences reported during 2016.

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

During 2016, the problems with the meteorological equipment were the most prominent, accounting for 43% of the overall ATM occurrences. All of these occurrences involved short-term equipment failure of the automatic observation system (50%), the weather forecasting system (25%) or failure of supporting functions such as AFTN/Internet affecting meteorological services. All of these occurrences were classified as occurrences without safety effect. The frequency of the occurrences, however, is concerning, and should be addressed as soon as the possible. The condition of the equipment, its age and lack of spare parts remains problematic. The Air Navigation Service Agency (ANSA) 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 time and had no safety impact.

Occurrences involving surveillance systems such as Radars, were the third most reported, accounting for 18% of ATM related occurrences. It is also, the only category that has experienced an increase in reports compared to the previous years (as shown in Figure 6). While most of the reported occurrences involved small technical problems, lasting for short periods of time, there was one occurrence that was classified as Incident. The occurrence involved a major technical problem with the current Radar system, which led to the Radar being out of service for several days. As a consequence, the ATC Approach unit had to provide Procedural Approach Control, which increased the ATC and pilot workload. The occurrence was investigated by ANSA, and the technical failure was addressed and fixed.

It is worth noting that all of the other sub-categories have experienced decline in the number of reported occurrences compared to the last two years, as it can also be observed in Figure 6. This improvement can be largely attributed to the investments ANSA has made in procuring the new systems and upgrading the old ones, but also in improving its procedures and provision of adequate training for its staff.

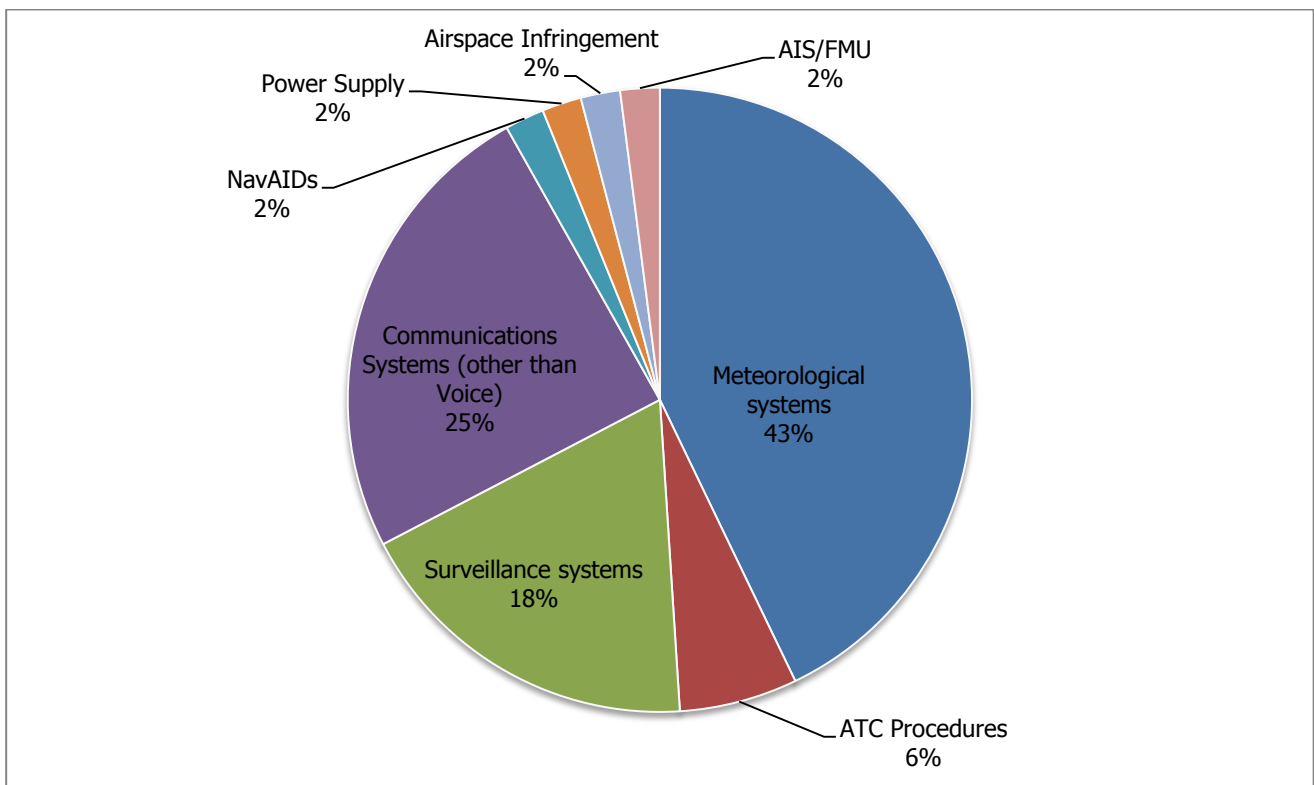


Figure 5. A breakdown of the reported ATM occurrences per sub-category

Few occurrences reported in 2016 were associated to ATC Procedures (3), Navigation Systems (1), Power Supply (1) and AIS/FMU (1).

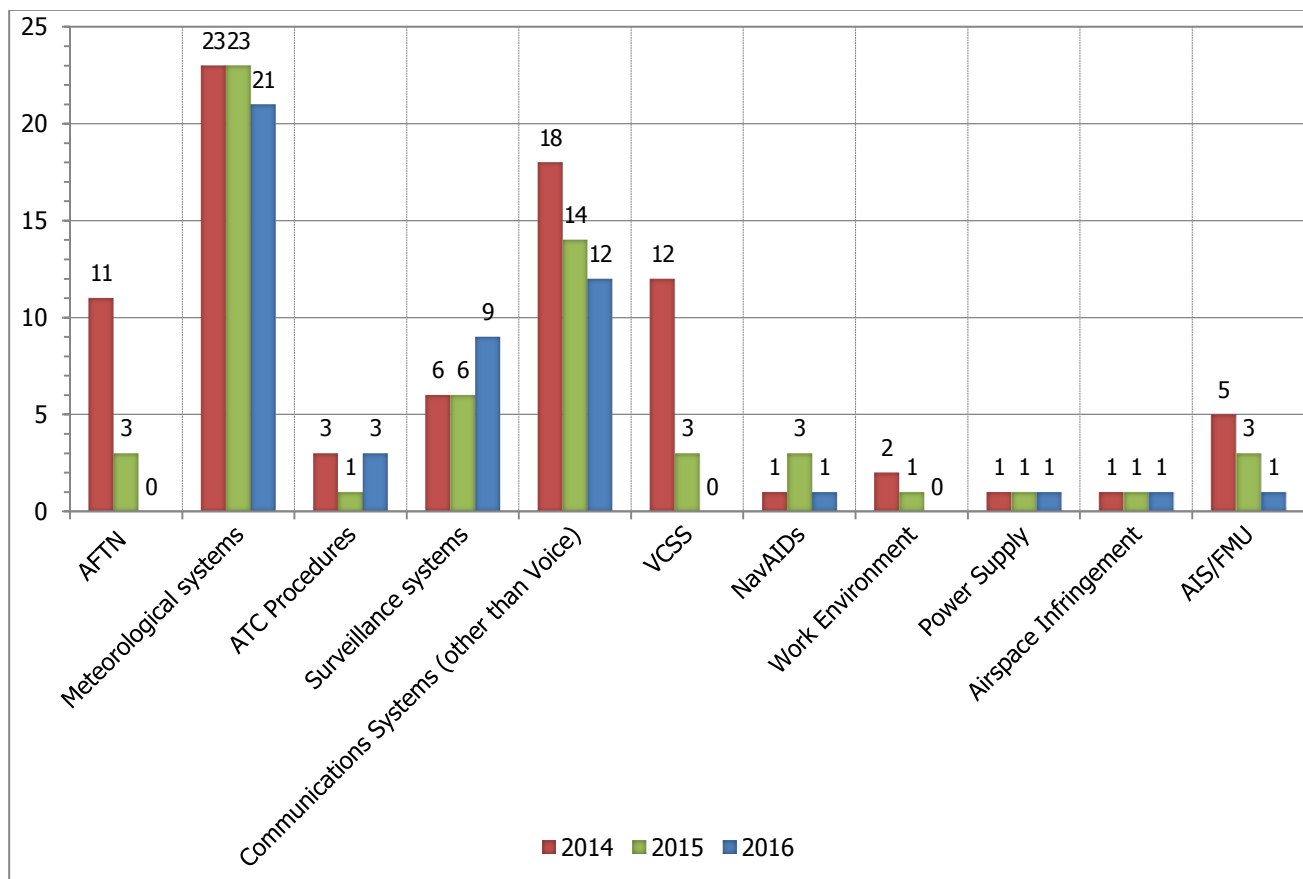


Figure 6. A comparison of the ATM occurrences reported during 2014, 2015 and 2016

A significant number of reports was helpful in identifying trends regarding equipment and other aspects of air navigation services and systems, both by the ANSA and the CAA, enabling ANSA to address these issues more carefully and ensure that proper measures were taken to mitigate the problems.

BIRD: Birdstrike. This category includes a collision/near collision with birds/wildlife, or ingestion of one or more birds. Unconfirmed birdstrikes are also included in this category.

During 2016 there were 28 reported birdstrikes, all were classified as occurrences without safety effect, except for two birdstrikes that were classified as incidents.

The Figure 7 shows the trend of the reported birdstrikes per each month during 2014, 2015 and 2016.

As shown below, the number of reported birdstrikes has increased during 2016, but not all the reported occurrences were confirmed by the aerodrome operator. Out of the total number, the aerodrome operator has confirmed 17 birdstrikes.

A confirmed birdstrike is collision between a bird and an aircraft for which evidence, in the form of a carcass, or other remains, is found on the ground; or damage and/or other evidence is found on the aircraft. An unconfirmed birdstrike is collision for which no physical evidence is found (i.e. no damage to the aircraft is evident upon inspection, and no bird remains, carcass or blood smears are evident on the airframe).

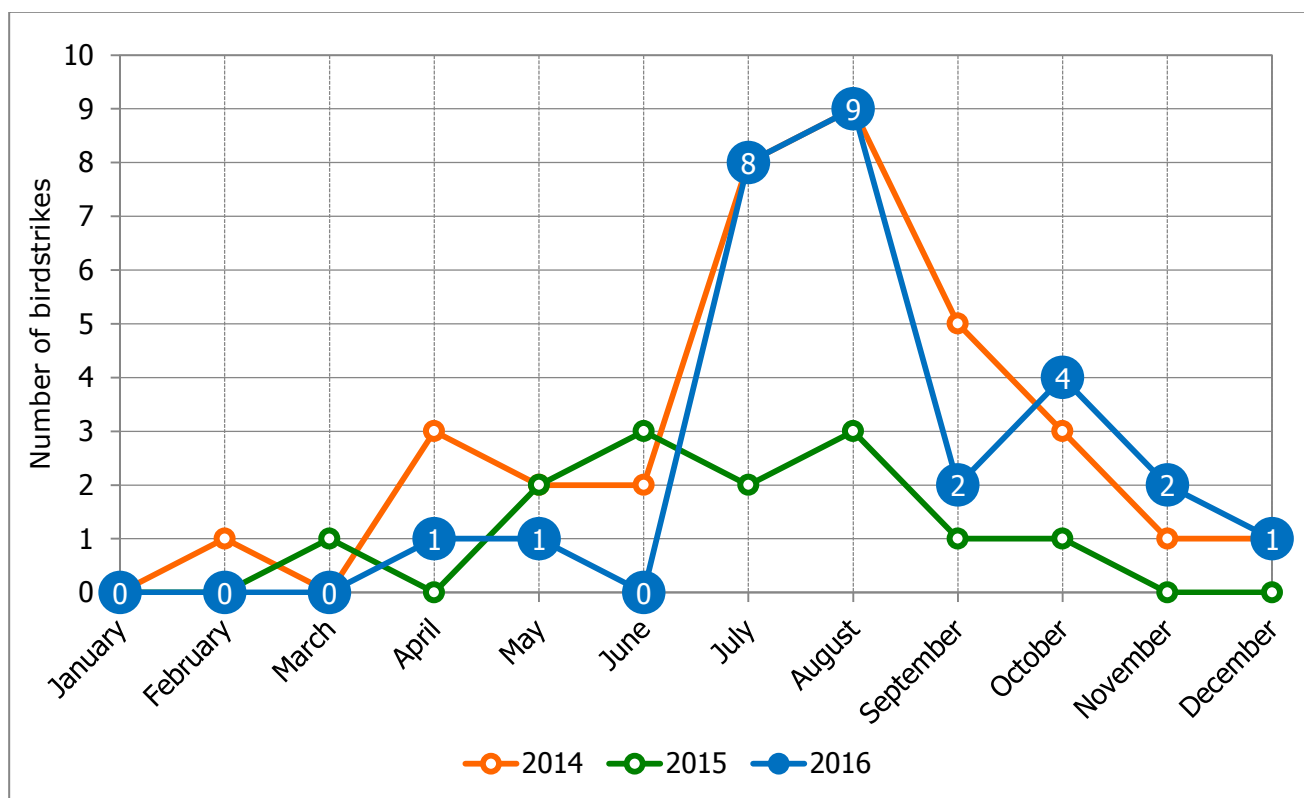


Figure 7. Birdstrikes reported during 2014, 2015 and 2016

The largest number of birdstrikes occurred during the summer months, which can be attributed mainly to several factors, including increased number of aircraft movements due to high peak season at PIA “Adem Jashari”, weather conditions, harvesting season close to the airport boundaries, etc. In 2016, the largest number of reported birdstrikes involved kestrels (small falcons that hunt small mammals and large insects).

LA: Laser Attack. See: **SEC: Security related.**

RAMP: Ground Handling. Occurrences during (or as a result of) ground handling operations, which include collisions that occur while servicing, boarding, loading, and deplaning the aircraft also during boarding and disembarking while helicopter is hovering, injuries to people from propeller/main rotor/tail rotor/fan blade strikes, push-back/power-back/towing events, jet blast and prop/rotor down wash, aircraft external preflight configuration errors that lead to subsequent events, and all parking areas (ramp, gate, tiedowns).

There were nine reported occurrences involving ground handling services. Four of those occurrences were classified as incidents, which involved passenger boarding and miscalculation of mass and balance; wrong baggage loading; wrong cargo load data inserted in the documents; and a wet incoming mail with lithium ion batteries. The other five occurrences were classified as occurrences without safety effect.

RE: Runway excursion. A veer off or overrun off the runway surface. This category is only applicable during either the take-off or landing phase. The excursion may be

intentional or unintentional. For example, the deliberate veer off to avoid a collision, brought about by a Runway Incursion.

One runway excursion occurred during 2016. This occurrence was classified as serious incident. This was the only serious incident and at the same time the most severe class reported during 2016. After touch-down on the Runway 35, the passenger aircraft with 151 POB, did not manage to vacate the Runway via Taxiway. Pilot in command declared that they have overrun the runway. Immediately Crash Net was activated, initially Alert 1 followed by Alert 3, and from that moment the Runway was closed for all other traffic. All units were informed via Crash Net about the position of the aircraft, the nature of the accident, and the name of airline. Firefighting units responded to the incident site immediately. Pilot reported no injured passengers on board, they needed controlled evacuation since there was no fire and no failure on board and he requested stairs for evacuation. After the evacuation was completed, the emergency site was taken under management of Airport Authority. There were no injured passengers, only material damage was reported.

RI-A: Runway incursion - animal. Collision with, risk of collision, or evasive action taken by an aircraft to avoid an animal on a runway or on a helipad/helideck in use.

During 2016, the CAA has received 10 reports involving animals (dogs and a bird) entering the movement area of PIA “Adem Jashari”. This number of reports may be attributed to several factors, but mostly due to construction works at the military part of the airport. After close cooperation between the airport and KFOR officials, the problematic parts of the perimeter fence were repaired. All reported occurrences were classified as occurrences without safety effect.

RI-VAP: Runway incursion - vehicle, aircraft 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.

Only one occurrence categorized as RI-VAP was reported in 2016 and it was classified as occurrence without safety effect. It involved a PIA “Adem Jashari” vehicle that broke down on the runway.

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 involving failure or malfunction of aircraft systems/components. Both occurrences were classified as incidents.

The first incident involved an aircraft on approach to PIA “Adem Jashari”, where the pilot reported a flaps problem, and after he did some tests and he was instructed to hold on LOC or VOR holding points, he requested diversion to Skopje, where he landed safely.

The second incident involved an aircraft arriving at PIA “Adem Jashari” with a removed piece of the fuselage, that piece was found on the runway. Aircraft landed safely.

SEC: Security related. Criminal/Security acts which result in accidents or incidents (per International Civil Aviation Organization [ICAO] Annex 13. Examples include: a) hijacking and/or aircraft theft; b) interference with a crewmember (e.g., unruly passengers); c) flight control interference; d) ramp/runway/taxiway security; e) sabotage; f) suicide; and g) acts of war.

The Ministry of Internal Affairs of the Republic of Kosovo has been designated to handle independently the collection, evaluation, processing, analysis and storage of details of the security related occurrences. However, the CAA remains responsible to handle independently the laser attack occurrences, which are included in the SEC category.

There were 24 laser attack (pointing a laser at an aircraft) reports submitted to the CAA in 2016 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 PIA “Adem Jashari” or flew safely to their intended destinations.

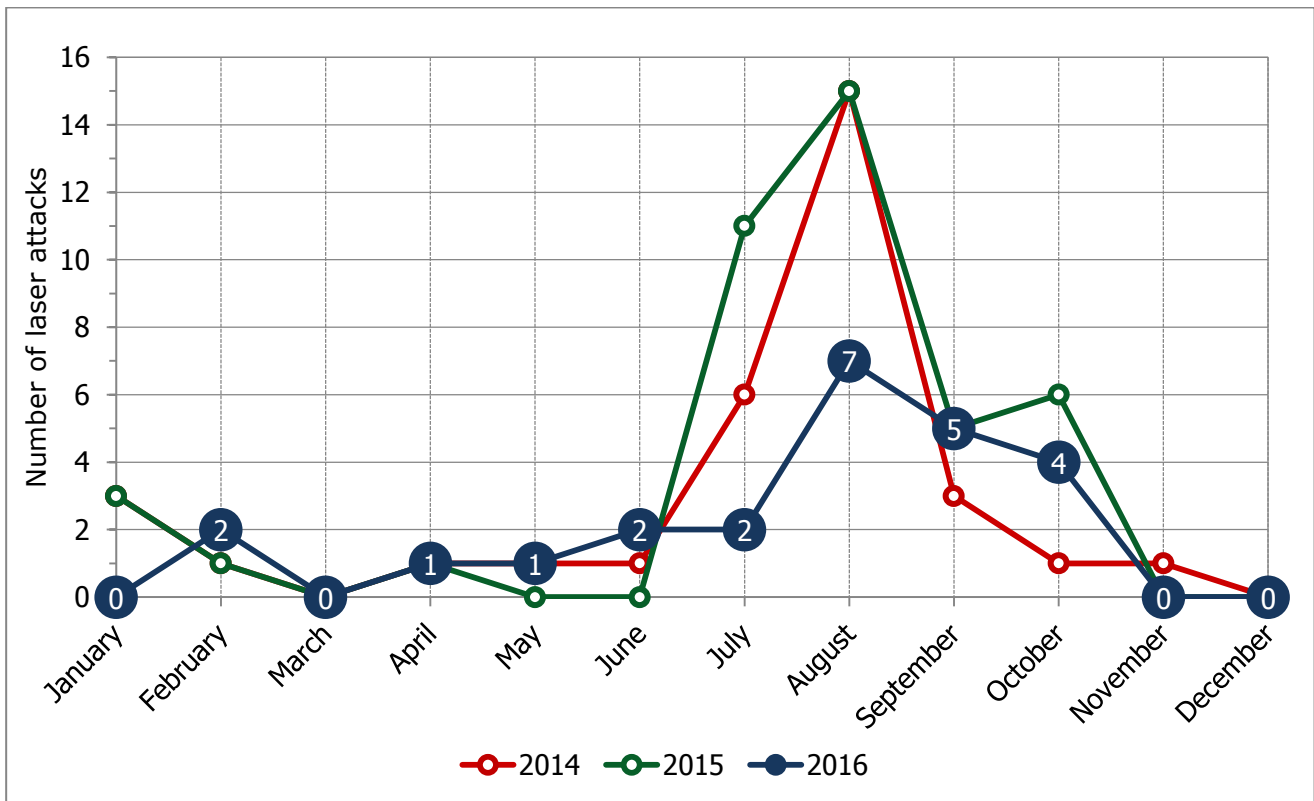
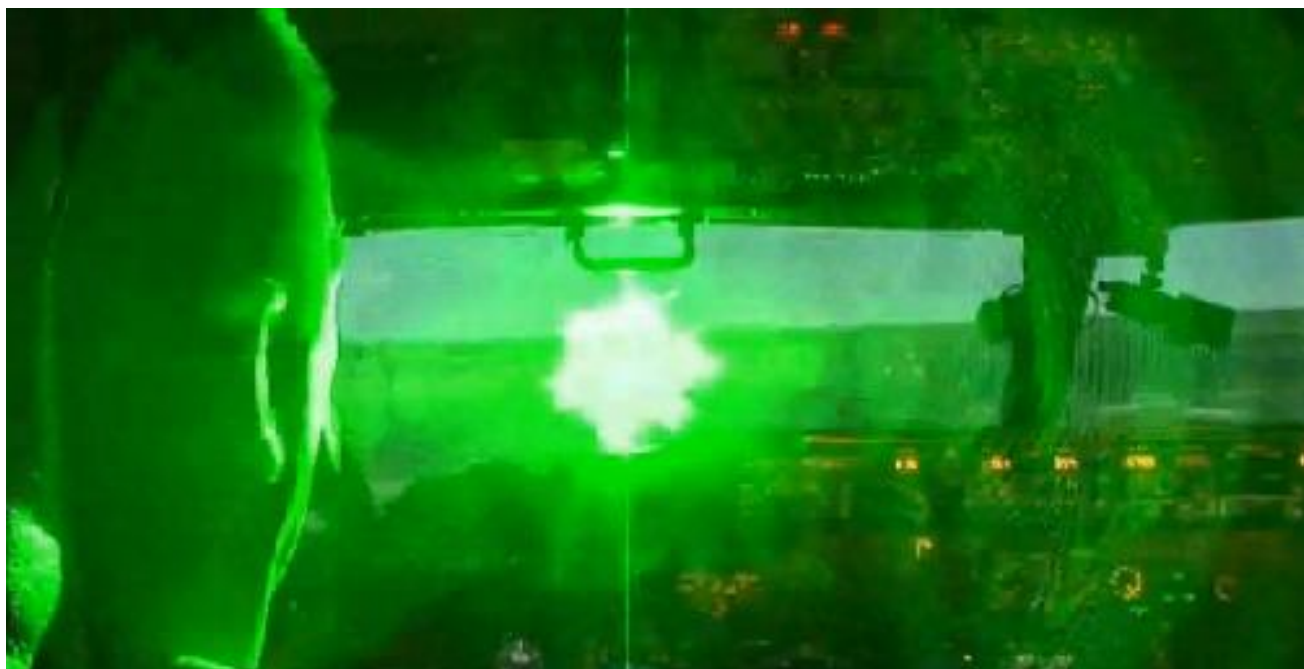


Figure 8. Laser attacks reported during 2014, 2015 and 2016

The number of occurrences related to laser attacks has decreased by 18 in 2016 in comparison with 2015, and by 9 in comparison with 2014.

As illustrated in the below picture, modern lasers have the power to blind, to act as a huge distraction and to dazzle the pilots during critical phases of flight, such as take-off and landing.



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

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. Laser attacks are carried out deliberately by irresponsible persons, they constitute a criminal offence, and the CAA strongly urges anyone who observes such activity at night, especially in the vicinity of an airport, to contact the police immediately.

OTHR: Other. Any occurrence not covered under another category.

There were 6 occurrence reports assigned to this category in 2016, 4 of them were classified as incidents and two as occurrences without safety effect. Suggestively, those numbers have been the same during the last three years.

The first incident related to unauthorised flying and landing, which was reported by a KFOR helicopter. It was reported an ultralight aircraft was flying just North of Bondsteel, without transponder. Prishtina TWR had no indication on the TWR Radar screen about such aircraft flying at that position. CATCO and AIS were informed. Later, on the same day, CANDY01 reported again that they have seen the aircraft on the airfield Plamena, South of Ferizaj and Police was already there. The CAA was informed and its inspectors found out that the aircraft did not have proper documentation and permits to fly in Kosovo airspace. The pilot has been fined by the CAA of Kosovo.

The second incident involved an aircraft that was cleared for approach, and then it proceeded to land without ATC clearance and without contacting airport Tower. At that time there were no other aircraft within Kosovo airspace. The incident was investigated by the CAA.

The last two incidents involved unauthorised drone activities, the first one occurred in the city centre of Peja, and the second over the parking area and main gate of the Camp Film City KFOR Base Prishtina.

The first of the two reports classified as occurrence without safety effect related to a traffic crossing Kosovo Airspace from North to South (6 NM inside the Eastern Kosovo border) on Flight Level 190, and the second report related to a problem with insertions of the alternate airport in the flight plan.



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