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

Occurrence Reporting Overview

2019

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

Occurrence reporting in Kosovo is governed by CAA Regulation No. 09/2017 on the reporting, analysis and follow-up of occurrences in civil aviation, of 6 September 2017, which transposes into the internal legal order of the Republic of Kosovo Regulation (EU) No 376/2014 of the European Parliament and of the Council of 3 April 2014 on the reporting, analysis and follow-up of occurrences in civil aviation. CAA Regulation No. 09/2017 has repealed CAA Regulation 1/2009 on occurrence reporting in civil aviation, CAA Regulation No. 08/2010 laying down implementing rules for the integration into a central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, and CAA Regulation 9/2010 laying down implementing rules for the dissemination to interested parties of information on civil aviation occurrences referred to in Article 7(2) of Directive 2003/42/EC of the European Parliament and of the Council.

Whereas, CAA Regulation No. 11/2017 laying down a list classifying occurrences in civil aviation to be mandatorily reported according to CAA Regulation No. 09/2017, which transposes into the internal legal order of the Republic of Kosovo Commission Implementing Regulation (EU) 2015/1018 of 29 June 2015 laying down a list classifying occurrences in civil aviation to be mandatorily reported according to Regulation (EU) No 376/2014 of the European Parliament and of the Council, sets out the list classifying occurrences to be referred to when reporting, under mandatory reporting systems, occurrences which may represent a significant risk to aviation safety and which fall within the categories of Article 4 (1.) of CAA Regulation No. 09/2017 and the occurrences applicable to aircraft other than complex motor-powered aircraft.

All the aviation occurrences referred to in Article 4 (1.) of CAA Regulation No. 09/2017 and in Annexes I to V to CAA Regulation No. 11/2017 shall be reported to the Civil Aviation Authority of the Republic of Kosovo (the CAA) by the natural persons listed in Article 4 (4.) of CAA Regulation No. 09/2017. 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.

The CAA has published on its website (https://caa.rks-gov.net) the Guidance Material on Regulation (EU) No 376/2014 and its practical implementation, which has been provided by the EU Aviation Safety Reporting Portal. This information and guidance material aims to explain the intended purpose of Regulation (EU) No 376/2014 provisions and its implementing regulations, and where relevant, possible means of compliance and examples of good practice, to contribute to a consistent implementation of Regulation 376/2014 and its implementing rules across the EU, which is also being used to contribute to a consistent implementation of CAA Regulation No. 09/2017 and its implementing rules in Kosovo.

The 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 occurrence reporting systems of civil aviation, the CAA has developed a

relationship of trust with the reporters, and subsequently contributed to the 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 stores occurrence reports drawn up on the basis of details of occurrences collected in accordance with Articles 4 and 5 of Regulation No. 09/2017 in its ECCAIRS Database (the CAA National Database), as prescribed in Article 6 (5.), by using the ECCAIRS (European Coordination Centre for Aviation Incident Reporting Systems) software platform developed by the European Union (EU). Also, the reports of accidents and serious incidents, including the safety recommendations, prepared by the Aeronautical Accidents and Incidents Investigation Commission of the Republic of Kosovo (AAIIC) will be stored in the CAA ECCAIRS Database. Also, the reports of the security related occurrences prepared by the Ministry of Internal Affairs of the Republic of Kosovo (MIA) can be stored in the CAA ECCAIRS Database, in addition to the laser attack occurrences that are being handled by the CAA, subject to future arrangements between the CAA and the MIA.

The CAA is looking forward, in agreement with the European Commission, to update the European Central Repository (EU ECCAIRS Central Database) by transferring to it all information relating to safety stored in the CAA ECCAIRS database as prescribed in Article 8 (2.) of Regulation No. 09/2017.

The CAA participates in an exchange of information by making all information relating to safety stored in its database available to the competent authorities of other ECAA Partners, EASA and the Commission, in accordance with Article 9 (1.) of CAA Regulation No. 09/2017. Also, in accordance with Article 9 (3.) of CAA Regulation No. 09/2017, the CAA forwards all pertinent safety-related information to the relevant authority of the ECAA Partner or EASA as soon as possible if it identifies safety matters which it considers either to be of interest to other ECAA Partners or EASA, or to possibly require safety action to be taken by other ECAA Partners or EASA.

This Occurrence Reporting Overview contains a description of the occurrence classes and categories, an analysis of the 2019 occurrence reports data and statistics, detailed information on the coded categories of the occurrences reported in 2019, lists with headlines and determined classes of all the occurrences, and a brief description of the most significant occurrences reported in 2019.

Occurrence Classes

The CAA uses the ADREP (Accident/Incident Data Reporting) occurrence class taxonomy to classify occurrences by severity i.e. in terms of safety risk. The ADREP 2000 occurrence class taxonomy is a set of terms used by ICAO and it is part of the ICAO ADREP System.

The ADREP occurrence class taxonomy enables the identification of any rapid action needed when looking at high-risk individual safety occurrences and also enables key risk areas to be identified from aggregated information. This taxonomy helps the relevant entities in their assessment of occurrences and in determining where best to focus their efforts. It facilitates an integrated and harmonised approach to risk management and thus enables the relevant entities to focus on safety improvement efforts in a harmonised manner.

Accident

An occurrence associated with the operation of an aircraft which, in the case of a manned aircraft, takes place between the time any person boards the aircraft with the intention of flight until such time as all such persons have disembarked, or in the case of an unmanned aircraft, takes place between the time the aircraft is ready to move with the purpose of flight until such time it comes to rest at the end of the flight and the primary propulsion system is shut down, 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;

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;

c) the aircraft is missing or is completely inaccessible.

Serious incident

An incident involving circumstances indicating that an accident nearly occurred.

Note:
- The difference between an accident and a serious incident lies only in the result.
- Examples of serious incidents can be found in Attachment C 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.

Note: 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 in which:
- Safety may have been compromised either having lead to a near collision between aircrafts, with the ground or obstacles (i.e. safety margins not respected which is not the result of an ATC instruction).
- Assessment of the incident using a risk classification process has identified that this incident could have deteriorated into more serious situation.

Significant incident

An incident in which:
- An accident, serious or major incident could have occurred if the risk had not been managed within safety margins (one or more safety barriers remaining).
- Or if another aircraft or vehicle had been in the vicinity during the incident.

Occurrence without safety effect (Eurocontrol). A possibly safety related occurrence (not meeting the reporting requirements).

Eurocontrol: An incident which has no safety significance.

Note: This appears to be a contradiction with the ICAO definition of an incident: An occurrence, other than an accident, associated with the operation of an aircraft which affects or could affect the safety of operation.

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

Observation

The observation of a potential safety issue or hazard that, if not rectified could cause or have caused an incident. The date and time of occurrence for an observation is that when it was first observed for the purposes of reporting and not an assessment of how long the safety issue might have been present.

Not determined

The class of the occurrence has not been determined.

Occurrence Categories

The CAA uses the ADREP occurrence category taxonomy to categorize occurrences (i.e. accidents and incidents) and analyse safety trends within these categories. The ADREP 2000 occurrence category taxonomy is a set of terms used by ICAO and it is part of the ICAO Accident/Incident Data Reporting (ADREP) System.

As listed below, each category has a unique name and identifier to permit common coding in accident/incident systems, and a text definition. Each category has also usage notes to clarify the category and aid in coding occurrences, but these notes are not presented here due to space constraints.

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.)
CABIN	Cabin safety events (Miscellaneous occurrences in the passenger cabin of transport category aircraft.)
CFIT	Controlled flight into or toward terrain (In-flight 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.)
LA[1]	Laser attack

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

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 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.)
MED	Medical (Medical – occurrences involving illness of persons on board the aircraft.)
NAV	Navigation error (Occurrences involving the incorrect navigation of aircraft on the ground or in the air.)
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.)
SEC[2]	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.)
WILD	Collision Wildlife (Collision with, risk of collision, or evasive action taken by an aircraft to avoid wildlife on a runway or on a helipad/helideck in use.)
WSTRW	Wind shear or thunderstorm. (Flight into wind shear or thunderstorm.)
OTHR	Other (Any occurrence not covered under another category.)
UNK	Unknown or undetermined (Insufficient information exists to categorize the occurrence.)

An important element of the occurrence category design is that it permits the association of multiple categories with an occurrence. Meaning, for example, if an engine failure occurred, and loss of control followed, the occurrence would be coded in both categories. Multiple coding supports the primary focus of the CAA - accident prevention - in which every pertinent element is investigated, recorded, and analysed.

[2] The Ministry of Internal Affairs (MIA) 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.

Statistical Data Analysis

As shown in Figure 1, during the year 2019 the CAA has received reports for a total of 168 occurrences in civil aviation, representing the second highest number of reported occurrences per year over the last thirteen years, immediately after the year 2014 when 174 occurrences were reported.

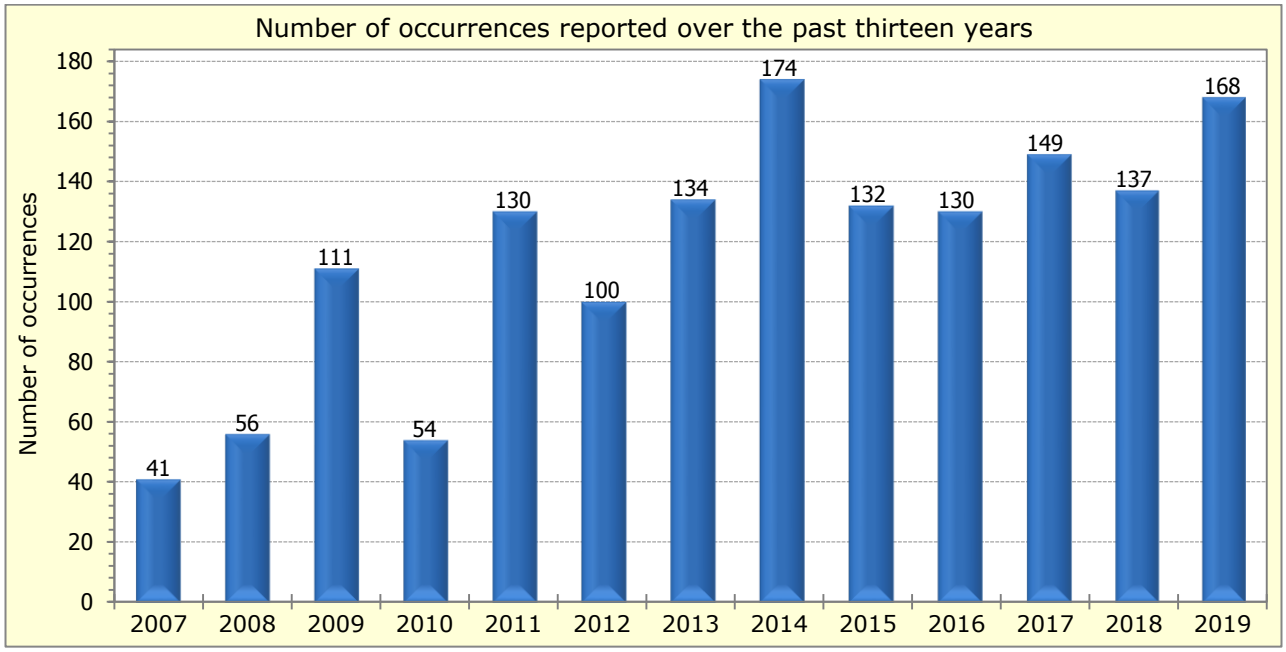


Figure 1. Number of occurrences reported over the years: 2007 - 2019

The number of 168 occurrences reported in 2019 is higher by 31 occurrences or 22.6% than the average of 137 occurrences of the previous 4 years, 2015 - 2018. Whereas the total number of occurrences reported to the CAA, from 2006 (when the occurrence reporting system was established in Kosovo) to the end of 2019, reached a total of 1518 occurrences.

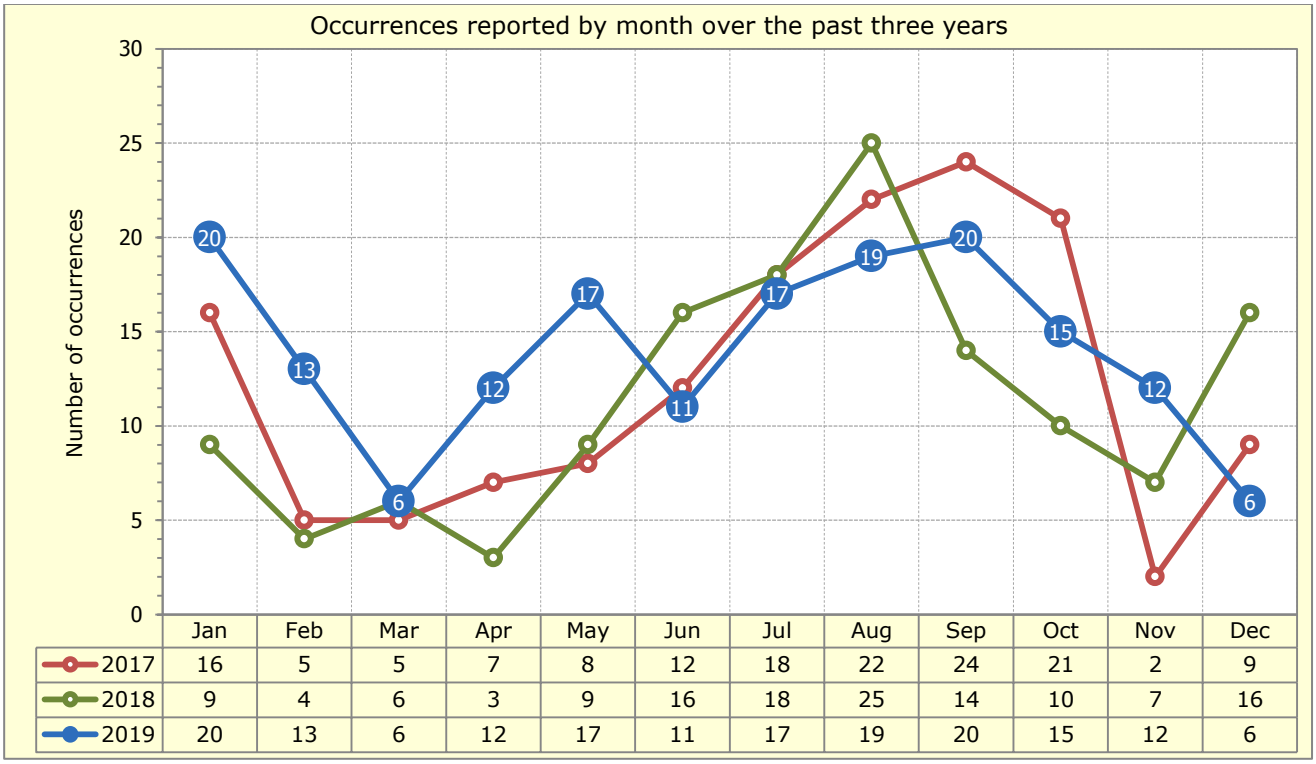
Figure 2 shows the number of occurrences received by the CAA on monthly basis over the past three years (2017-2019). The figure shows that the year 2019 started with 20 occurrences reported in January, which is the maximum number of occurrences reported monthly in 2019, and except in January, this number recurred in just another month, in September. In February, the number of occurrences dropped to 13, which is close to the annual average of 14 occurrences reported monthly in 2019, before it dropped to 6 occurrences in March, which is the minimum number of occurrences reported monthly in 2019.

In April, the number of occurrences came close to the average number of occurrences, before it came close to the maximum number of occurrences in May. It fell down in June, declining below the average number of monthly occurrences. Then, over the next three summer months, it gradually increased to its maximum of 20 occurrences in September. After that, it gradually declined over the last three months of 2019, reaching its minimum of 6 occurrences in December.

The high number of reported occurrences during the three summer months, from July to September, is common due to the higher number of aircraft movements during these months at the Prishtina International Airport (PIA), the high season in Kosovo, as well as the higher number of bird strikes during this period. While, the high number of occurrences reported in January is

rather uncommon, and it came as a result of the high number (15) of the occurrences falling into the ATM category (ATM equipment/systems and procedures).

However, the high number of the received occurrence reports in 2019 doesn't necessarily indicate a lower level of safety, but, to the contrary, it shows the efficiency of the safety management systems (SMS) of the reporting organizations and their safety culture in general.



	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2017	16	5	5	7	8	12	18	22	24	21	2	9
2018	9	4	6	3	9	16	18	25	14	10	7	16
2019	20	13	6	12	17	11	17	19	20	15	12	6

Figure 2. Occurrences reported by month over the past years: 2017 - 2019

The occurrences reported in 2019 have been classified into different classes based on the severity of their effect on the safe operations of aircraft and occupants, and on the ability to provide safe ATM and aerodrome services. These classes, along with the classes of the occurrences reported over the previous four years, are shown in Figure 3 below.

As shown in Figure 3, out of the 168 occurrences received by the CAA during 2019, 79 occurrences (47% of the total number of occurrences) were classified as "Occurrences without safety effect", 87 occurrences (51.8% of the total number of occurrences) were classified as "Incidents", one occurrence (0.6% of the total number of occurrences) was classified as "Serious incident" and one occurrence was classified as "Accident", and there were no occurrences classified as "Significant incidents" and as "Major incidents".

It can be observed that the ratio of the two prevailing classes, Occurrence without safety effect (OWSE) and Incident, has changed compared to the ratio of the previous three years, it has increased in favour of the Incident class. In 2019 the percentage of the occurrences classified as Occurrences without safety effect was 47% of the total number of occurrences. While, in 2018 the percentage of the occurrences classified as OWSE was 75.9%, in 2017 it was 65.8%, in 2016 it was 70% and in 2015 it was 50%.

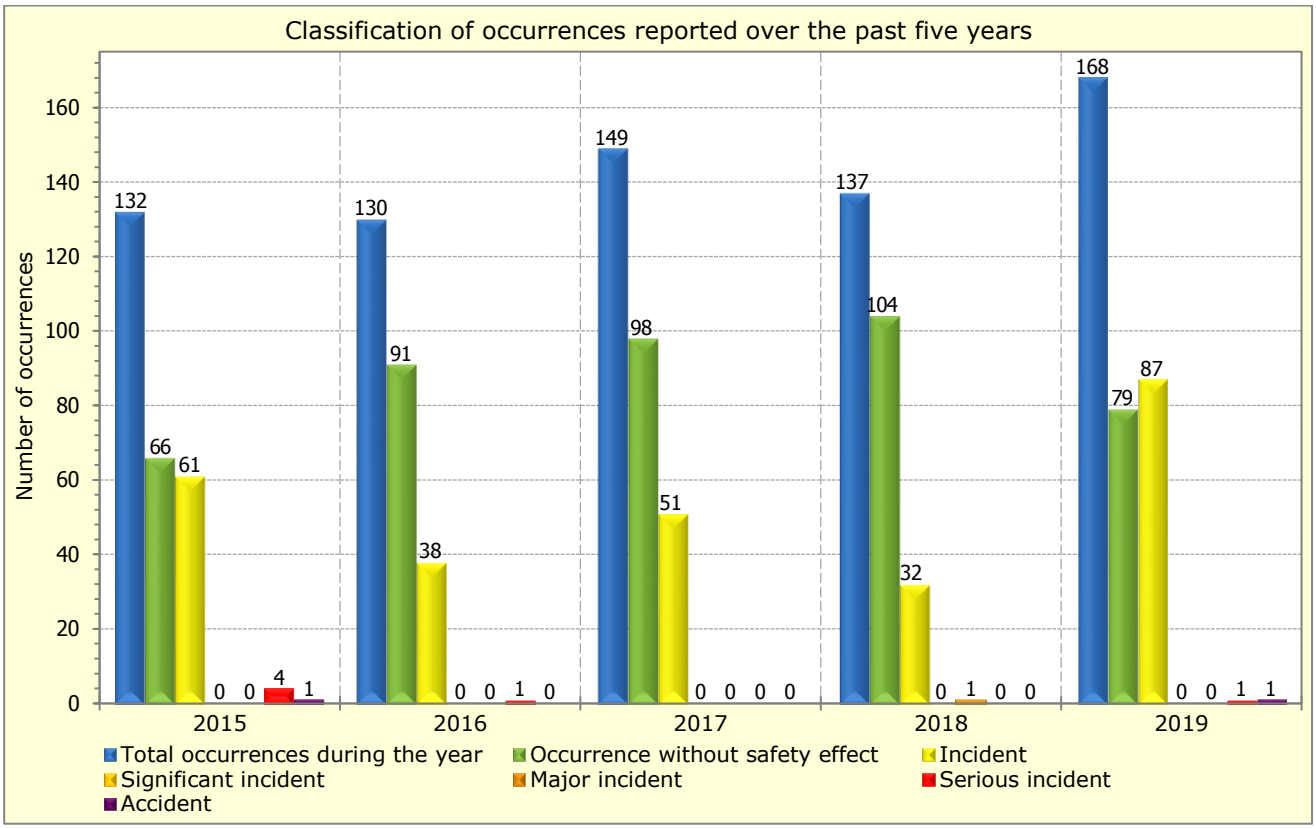


Figure 3. Classification of occurrences reported over the past years: 2015 - 2019

Reduction of the percentage of Occurrences without safety effect in 2019 can be attributed to the change of the attitude in classification of occurrences within certain categories, which has led to a reduction of occurrences in this class and to an increase of occurrences in the class of Incidents. For example, it has been decided that every confirmed birdstrike will be classified as an incident, unless the results of the investigation suggest otherwise. Except the BIRD category, in the reduction of the percentage of the OWSE class, the ADRM category made a significant impact and the ATM and OTHR categories made a lesser impact. The differences in percentages of these classes in 2019 and 2018 can be observed in Figure 5 below, which presents the categorization and classification of the occurrences reported in 2018 and 2019.

In addition to being classified, the occurrences reported in 2019 have also been coded into different categories, according to the aviation elements pertinent to these occurrences. These categories, along with the categories of the occurrences reported over the previous two years, are presented in Figure 4 below.

It can be observed from Figure 4 that in 2019, compared to the categories of the occurrences of the previous years 2018 and 2017, certain categories have experienced a small or a significant increase, certain categories have occurred for the first time or recurred after several years, one category has experienced a slight decrease, and certain categories have been missing after several years.

The categories of occurrences of the year 2019 that have experienced a slight or a significant increase and have contributed in the increase of the total number of occurrences are:

- ADRM: Aerodrome;
- ATM: ATM/CNS (Air traffic management or communications, navigation, or surveillance);
- BIRD: Birdstrike;

- RAMP: Ground Handling; and
- OTHR: Other.

The sum of the occurrences of the above five categories in 2019 is 139, which is 26 occurrences more than it was in 2018 and 31 more than it was in 2017.

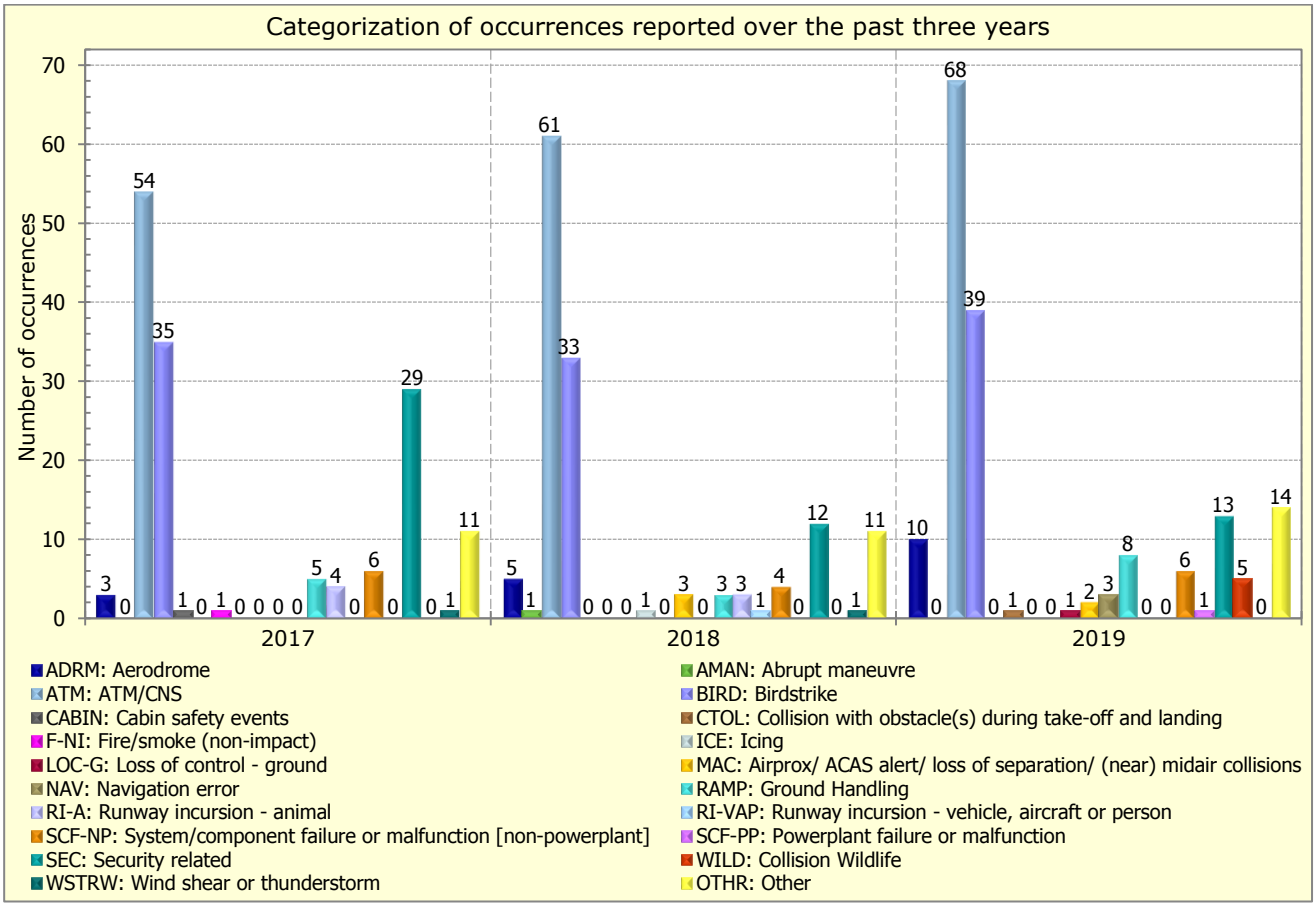


Figure 4. Categorization of occurrences reported over the years 2017, 2018 and 2019

The categories of occurrences that have occurred for the first time in 2019 or that have recurred after several years are:

- CTOL: Collision with obstacle(s) during take-off and landing;
- LOC-G: Loss of control - ground;
- NAV: Navigation error;
- SCF-PP: Powerplant failure or malfunction; and
- WILD: Collision Wildlife.

The CTOL category has occurred for the first time in 2019 and it has counted one occurrence, which was classified as Serious incident, and which can be seen in Figure 5 below. The LOC-G category has also occurred for the first time in 2019 and it has also counted one occurrence, which was classified into the most severe class, the Accident class, which included only one occurrence in 2019.

The NAV and WILD, which are recently introduced occurrence categories, have been coded for the first time in 2019. The NAV category has counted three occurrences that were all classified as Incidents. While, the WILD category has counted five occurrences in 2019. The WILD category has been designed to include occurrences that were previously coded into the RI-A (Runway incursion

- animal) category. Consequently, the RI-A occurrences have been recoded into the WILD category in the CAA National Database, but this change hasn't been reflected here since the RI-A occurrences were shown as such in the previous Occurrence Reporting Overviews. While, the SCF-PP category has recurred for the first time since 2015, it has counted one occurrence in 2019 and in total there are 12 occurrences of this category in the CAA National Database.

The category of occurrences that has experienced a decrease in 2019 (there hasn't been any occurrence of this category) is:

- ✈ WSTRW: Wind shear or thunderstorm.

In total there are seven occurrences of the WSTRW category in the CAA National Database, which have all occurred over different years, starting from 2008 to 2018.

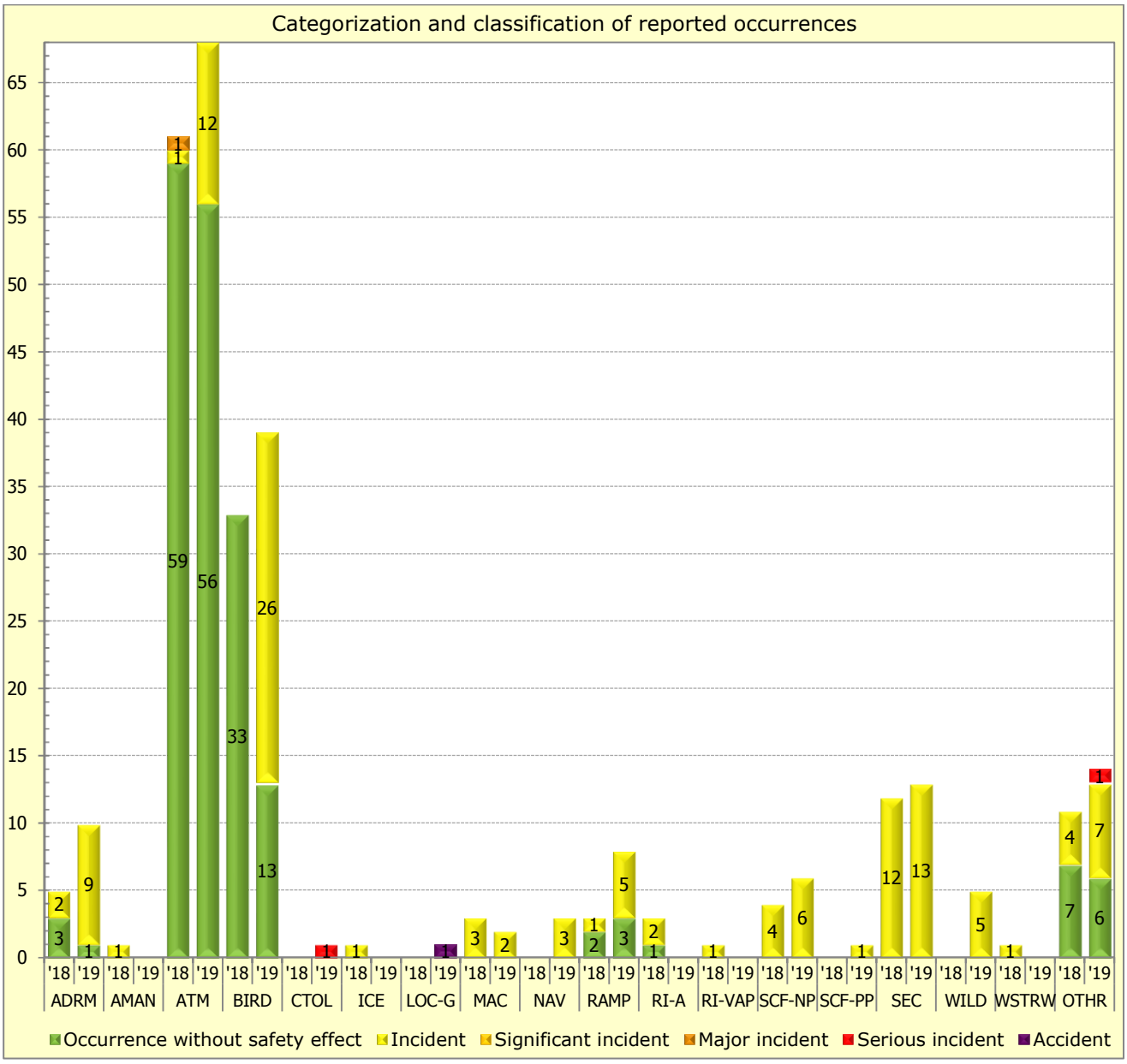


Figure 5. Categorization and classification of occurrences reported in 2018 and 2019

The categories of occurrences that have been missing in 2019 after several years of constant appearance, and that have contributed in the decrease of the total number of occurrences in 2019, are:

- RI-A: Runway incursion - animal; and
- RI-VAP: Runway incursion - vehicle, aircraft or person.

As noted above, the RI-A occurrence category has been substituted by the WILD category. While, in the RI-VAP category there hasn't been any occurrence in 2019, whereas in total there are ten occurrences of this category in the CAA National Database.

Other categories haven't had a significant impact in the total number of occurrences in 2019. For clarification, it should be noted that three of the reported occurrences have been coded in two categories each, and therefore the total number of the coded occurrences in Table 1 appears to be 171, but in reality there were 168 occurrences.

Contrary to Figure 5 above, which shows the categorization and classification of the occurrences reported in 2018 and 2019, Table 1 below shows only the occurrences reported in 2019, their coded categories, and their determined classes.

	Occurrence without safety effect	Incident	Significant incident	Major incident	Serious incident	Accident	Total
ADRM	1	9	-	-	-	-	**10**
ATM	56	12	-	-	-	-	**68**
BIRD	13	26	-	-	-	-	**39**
CTOL	-	-	-	-	1	-	**1**
LOC-G	-	-	-	-	-	1	**1**
MAC	-	2	-	-	-	-	**2**
NAV	-	3	-	-	-	-	**3**
RAMP	3	5	-	-	-	-	**8**
SCF-NP	-	6	-	-	-	-	**6**
SCF-PP	-	1	-	-	-	-	**1**
SEC	-	13	-	-	-	-	**13**
WILD	-	5	-	-	-	-	**5**
OTHR	6	7	-	-	1	-	**14**
Total	**79**	**89**[3]	**-**	**-**	**2**[4]	**1**	**171**[5]

Table 1. Occurrences reported in 2019, their coded categories and determined classes

By examining the categories of occurrences reported over the past three years, as shown in Figure 4, the classes of occurrences reported over the past two years, as shown in Figure 5, and the classes of occurrences reported over the past year, as shown in Table 1, it can be concluded that a

[3] The total number of occurrences classified as Incidents in 2019 was 87, but two of these incidents were coded under two categories.

[4] The total number of occurrences classified as Serious incidents in 2019 was 1, but this Serious incident was coded under two categories.

[5] The total number of occurrences in 2019 was 168, but three of these occurrences were coded under two categories.

significant portion of the occurrences received in 2019, 68 occurrences (40.5%), were codded under the ATM (Air traffic management or communications, navigation, or surveillance) category, which includes issues related to ATM/CNS, aeronautical information and meteorological services. Out of these 68 occurrences, 56 (82.4%) of them were classified as "Occurrences without safety effect", and 12 (17.6%) occurrences were classified as "Incidents" accounting for 13.8% of the total number of the determined incidents in 2019.

The second most reported occurrence category in 2019 was the Birdstrike (BIRD) category with 39 occurrences, representing 23.2% of the total number of reported occurrences. Of these 39 occurrences, 13 (33.3%) were classified as "Occurrences without safety effect", and 26 (66.7%) occurrences were classified as "Incidents" accounting for 29.9% of the total number of the determined incidents.

The third most reported occurrence category in 2019 was the Other (OTHR) category with 14 occurrences, representing 8.3% of the overall number of reported occurrences. Out of 14 OTHR occurrences, 6 (42.8%) were classified as "Occurrences without safety effect", 7 (50%) occurrences as "Incidents" accounting for 8% of the total number of the determined incidents, and 1 (7.1%) occurrence was classified as "Serious incident" that is the only serious incident that occurred in 2019.

While, the fourth most reported occurrence category in 2019 was the Security related (SEC, which also includes the sub-category of Laser attacks) category with 13 occurrences, representing 7.7% of the overall number of reported occurrences. All the SEC occurrences reported to the CAA in 2019 fell into the Laser attack sub-category, and all of them were classified as "Incidents" accounting for 14.9% of the total number of the determined incidents.

The sum of all occurrences included in the four categories ATM, BIRD, OTHR and SEC mentioned above, which were classified as "Incidents", was 58 occurrences, and this number accounted for 65.2% of the total number of the determined incidents.

Other categories of occurrences have contributed in the total number of the determined "Incidents" with the following numbers of incidents: ADRM with 9 incidents, MAC with 2 incidents, NAV with 3 incidents, RAMP with 5 incidents, SCF-NP with 6 incidents, SCF-PP with 1 incident and WILD with 5 incidents. So, in total these categories have contributed with 31 incidents, which accounted for 34.8% of the total number of the determined incidents.

For clarification, it should be restated that two of the occurrences classified as "Incidents" have been coded in two categories each, and therefore the total number of the occurrences classified as "Incidents" appears to be 89, but in reality it was 87.

Coded Occurrence Categories

This section provides detailed information on the coded categories of the occurrences reported in 2019. It lists the headlines of all the occurrences, along with their determined classes, and provides a brief description of the most significant occurrences reported in 2019.

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.

As listed below, ten of the occurrences reported during 2019 were coded in the ADRM category, out of which nine were classified as incidents and one as occurrence without safety effect:

File Number(s)	Headline of Occurrence	Number of Occurrences	Occurrence Class
009	Damage of AGL Primary Cables	1	Incident
016	CrashNET Malfunction	1	Incident
081	Taxiway Incursion by a Truck	1	Incident
090	AWOS Problems	1	Incident
099	PAPI Lights RWY35 Failure	1	Incident
103	Unauthorised Crossing of Taxiway by a Vehicle	1	Incident
127	Unauthorised Parking of Fire Truck on Taxiway/Apron	1	Incident
146	Runway Closure due to Unfinished Construction Works	1	Incident
147	Incursion of RESA due to Lack of Knowledge about It	1	OWSE[6]
153	Runway Closure due to Damage of Runway Lights and Markers	1	Incident

Five of the reported incidents were closely related to the runway extension project, which is taking place at Prishtina International Airport "Adem Jashari", three of which occurred due to the cutting of underground cables during earthworks. Other four occurrences were related to the unauthorised presence of vehicles on the manoeuvring area.

One incident has occurred due to malfunction of the CrashNET. CrashNET system is designed for emergency communications at airports, where a direct-wired intercommunication system should be installed between the Air Traffic Control tower and the emergency response teams. This occurrence has been seriously treated by all the involved parties since it was also coded under the ATM category.

[6] Occurrence without safety effect.

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

As listed below, 68 occurrences reported during 2019 were coded in the ATM category:

File Number (s)	Headline of Occurrence	Number of Occurrences	Occurrence Class
002, 012	Radar Mode S Unserviceable	2	Incident
003	Power Outage; Total Shutdown of Frequencies, Radar, Meteo Data, Glide Path, AFTN and AWOS	1	Incident
004, 014, 019, 056, 072, 128, 129, 131	RVR17 Problems	8	OWSE
005	No Coordination Between Relevant ATC Units	1	OWSE
007	Radar Picture Flickering	1	Incident
010, 011, 039, 040, 047, 048, 049	Radio Frequency Unserviceable	7	OWSE
013, 037, 078, 145, 156	Weather Forecasting Systems Problems (EUMETCast/SADIS)	5	OWSE
016	CrashNET Malfunction	1	Incident
017, 024, 026, 027, 028, 030, 031, 032, 033, 109, 121	Radar Screen Malfunction	11	OWSE
018, 020, 022, 025, 050, 051, 168	Various AWOS and MIS Sensor Problems	7	OWSE
021	RVR, CBR and AWOS Unserviceable, ILS Category Downgraded	1	Incident
041	DVOR/DME Malfunction	1	OWSE
042	Incorrect Date in RCMS	1	OWSE
044, 120	Direct Phone Lines (VCSS) Unserviceable	2	OWSE
054	Localizer Unserviceable	1	Incident
059, 067, 134, 149, 150	AFTN Failure	5	OWSE
073	Radar Failure	1	Incident
075	Remote Control and Monitoring System of MSSR Failure	1	Incident
085	VCSS & Radar Screen Unserviceable	1	OWSE
090	AWOS Problems (Due to Construction Works)	1	Incident
143	Radar Data Processing Unserviceable	1	Incident
148	Radar and Radio Frequency Failure, NOTAM on Unavailability of ATC Services	1	Incident
151, 161	Interference on Radio	2	OWSE
152	Digital Linear Tape (DLT) Failure	1	OWSE
155, 158	Secondary Surveillance Radar Failure	2	OWSE
160	Internet Problems	1	OWSE
162	Cancellation of Flights due to Weather Forecasts	1	OWSE

Table 1 and Figure 4 show that during 2019 occurrences concerning ATM systems and procedures (including Aeronautical Information and Meteorological Services) accounted for around 40% of the total occurrences reported during 2019.

Occurrences covering ATM technical failures or defects, mainly related to communication, navigation, surveillance, meteorological equipment, aeronautical information systems, etc. are coded under this category, as well as any other occurrence pertaining to or involving ATM procedures and systems. ATM related occurrences are classified according to the effect they have on safety, and categorized according to the service/system they affect.

As can be seen from Figure 6, problems with the meteorological equipment and surveillance systems were the most prominent during 2019, accounting for 32% and 31%, respectively, of the overall ATM occurrences. Occurrences related to the communication systems accounted for 28% of the occurrences, out of which 13% were related to the radio communication problems and 15% were related to other communications systems such as the telephone lines, internet, AFTN, etc.

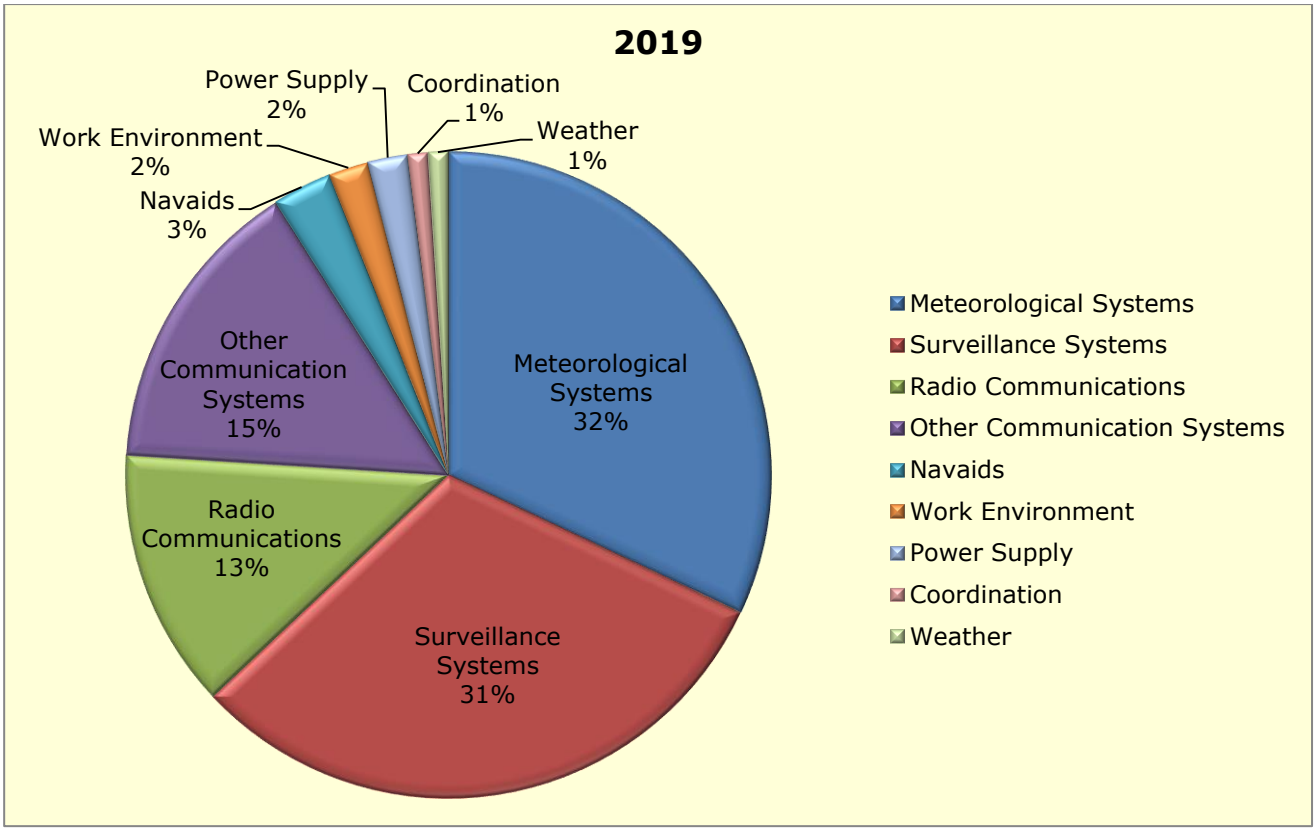


Figure 6. A breakdown of the ATM occurrences into sub-categories

In terms of their effect on safety, 82% of the ATM related occurrences were classified as occurrences without safety effect (OWSE) and 18% as incidents.

Figure 7 below shows graphically sub-categories of the ATM related occurrences according to their severity classification. Whereas, Figure 8 further below shows the breakdown of the ATM related occurrences, reported during the last three years, into specific sub-categories and the number of occurrences within these sub-categories.

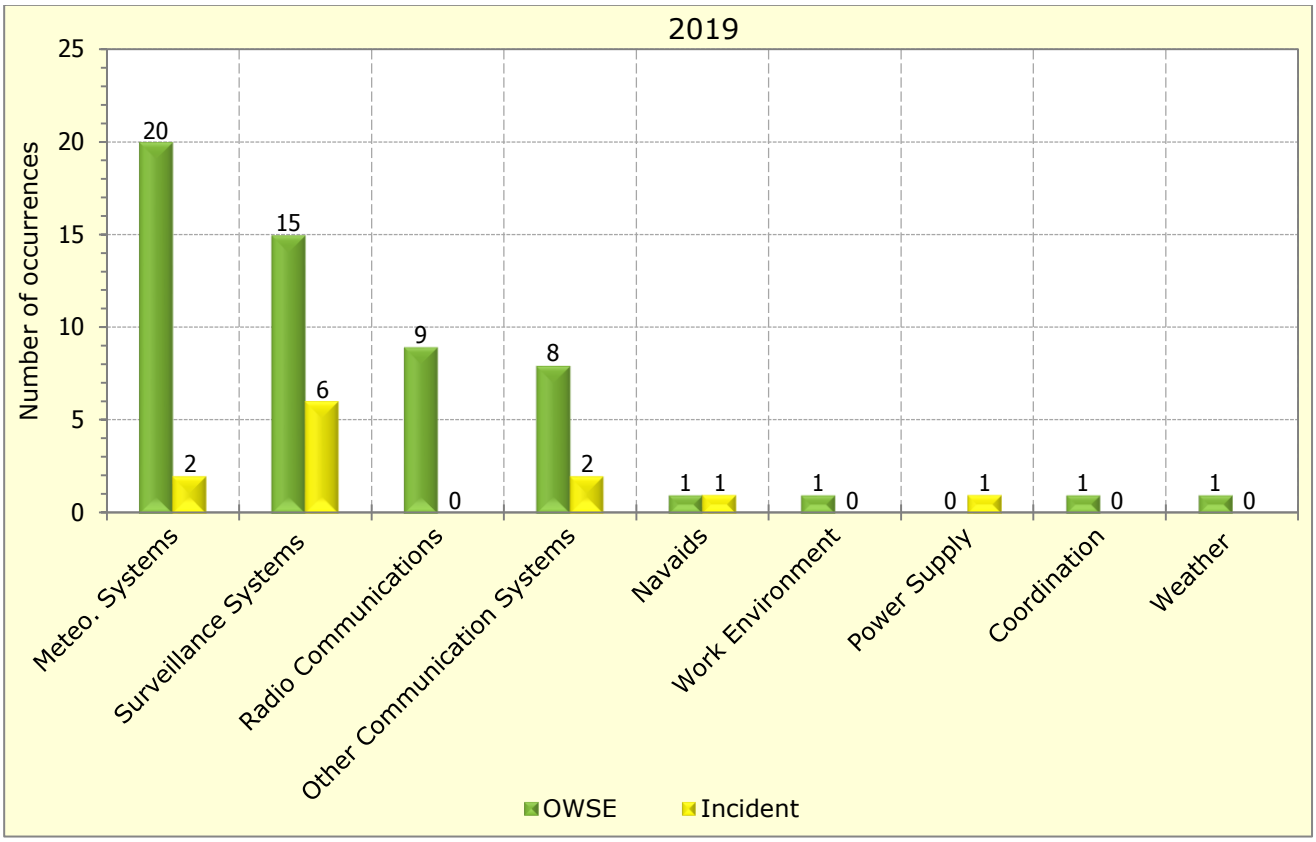


Figure 7. ATM occurrences according to their severity classification

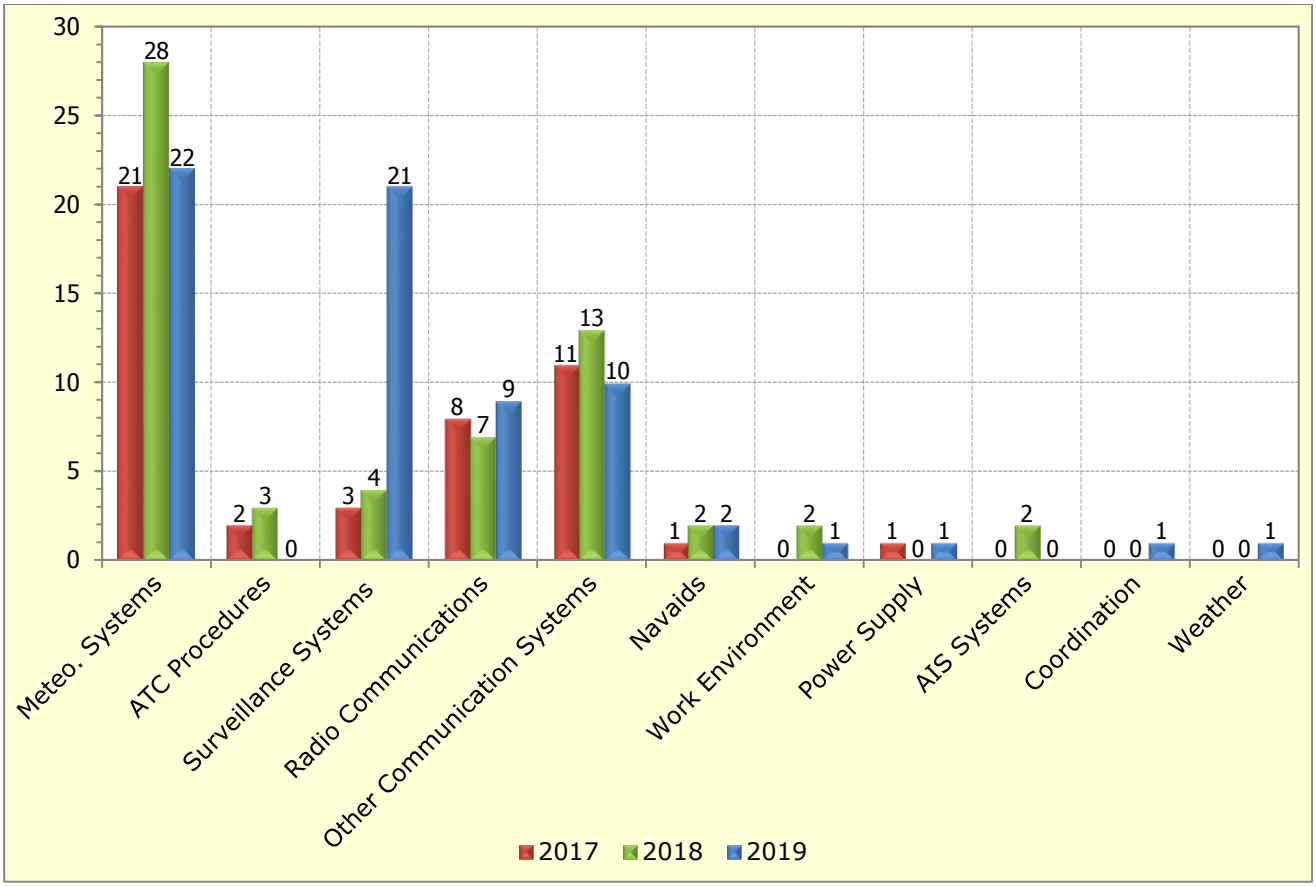


Figure 8. A comparison of the ATM occurrences reported during 2017, 2018 and 2019

A summary of the ATM related occurrences according to their sub-categories is provided below.

Meteorological systems:

There were 22 reported occurrences, which were related to the meteorological observation and forecasting systems. The most serious were those affecting the whole Automated Weather Observing System (AWOS), or a significant number of sensors. In particular, because of a single technical problem, 3 occurrences of a similar nature were reported during a short period of time in February 2019, out of which one was classified as incident, because it has led to the degradation of the ILS category. The technical problem was solved and the Air Navigation Service Agency (ANSA) prepared a detailed report describing the measures undertaken to fully address this issue.

Problems with the Runway Visual Range (RVR) sensors were also prominent (approximately 40% of the MET occurrences), however most of them were short-termed and had no effect on the safety of operations. It should be noted that problems related to AWOS and RVR derived mainly from the overall poor condition of the equipment, its age and lack of spare parts. In particular, problems with RVR can be caused by a number of factors, including weather phenomena such as snow, fog, etc. For this reason, according to ICAO guidance, the Meteorological Department within ANSA has put in place back-up procedures for manual verification of the RVR data by the observation personnel, anytime there are doubts about the accuracy of the RVR data. The need for such procedures was identified during investigation of occurrences in the past few years. In addition, ANSA has in place a back-up weather observing system, which offers sufficient data for drafting METAR messages, in case the main AWOS fails. Another reported incident with the AWOS system occurred due to the ongoing construction works around the runway.

A permanent solution for the problems with meteorological systems is the procurement of a new AWOS system, which is planned as part of the runway extension project.

Other problems with meteorological systems, such as forecasting systems, were short-termed and had no impact on safety.

Surveillance (radar) systems:

There were 21 reported occurrences related to the surveillance systems. Out of which 13 problems that affected the radar's capability to correctly correlate aircraft and targets, as well as graphical representation of targets, were considered more serious, since they directly affected the work of air traffic controllers. For this reason, 3 out of 13 occurrences of this nature were classified as incidents. For this group of occurrences, ANSA was requested to conduct a thorough investigation and submit an investigation report with relevant recommendations. After the submission of the investigation report, the CAA followed-up the implementation of the recommendations, and it was noted that no similar problems were reported since.

Three problems of the Remote Control and Monitoring System (RCSM) were reported, and two of them were classified as incidents. An investigation report was submitted by ANSA, and recommendations are being followed-up by the CAA.

Another occurrence regarding the radar's Digital Linear Tape (DLT), which records the radar data, was reported. This occurrence was addressed immediately by the ANSA's technical team. Two other reported occurrences were related to problems with one of the radar channels. Another

reported occurrence was related to the data processing system. Investigation reports for these occurrences are pending.

Radio and other communication systems:

There were 9 reported occurrences which related to the radio communication systems, all of which were classified as occurrences without safety effect. 7 of these occurrences were related to problems with communications over radio frequency. Due to the frequency of the reports, during the year 2018 as well, ANSA was requested to investigate comprehensively all the occurrences of this nature that were reported in the second half of 2018 and during 2019. The investigation report was received in July, and the implementation of all recommendations was verified. No similar occurrences were reported since. Two of the remaining problems were related to interferences on the frequency. The risk analysis showed that while these occurrences had no safety effect, ANSA, LKIA and CAA are monitoring the trends.

As far as other communication systems are concerned, there were 7 reported occurrences, involving mainly AFTN (Aeronautical Fixed Telecommunication Network), Internet, Phone Lines and Optical Fiber Lines. Two of these occurrences were classified as incidents. One of them that was related to the CrashNET, which is the emergency alerting service communication line, was addressed together by ANSA and LKIA. There were no similar occurrences reported since. The other incident concerned the failure of the main optical fiber communication between Golesh site and the ATC tower, and it caused a temporary disruption of the air traffic service provision (approximately for 25 minutes). An investigation of the occurrence was immediately requested from ANSA and the report is pending.

Other occurrences within these sub-categories lasted for a short time and had no impact on safety.

Other occurrences:

Six of the reported occurrences were categorized in other sub-categories, including problems with power supply, coordination, navigational aids and work environment. Out of these, two occurrences were classified as incidents. One occurrence concerned a power outage which caused a temporary shutdown of radio communications, and affected the radar and meteorological data. The other incident was a problem involving the operation of the Localizer (Instrument Landing System - ILS), which was temporarily put out of function due to construction works. Both incidents were addressed, and investigation reports with adequate recommendations have been submitted.

Other reports were related to occurrences with no effect on safety.

BIRD: Birdstrike. Occurrences involving collisions/near collisions with birds. Unconfirmed birdstrikes are also included in this category.

As listed below, during 2019 there were 39 reported birdstrikes, 26 of which were classified as incidents and the other 13 as occurrences without safety effect. Contrary to the previous years, starting from 2019 and onwards, every confirmed birdstrike will be classified as an incident, except when the results of the investigation suggest otherwise.

File Number(s)	Headline of Occurrence	Number of Occurrences	Occurrence Class
001, 053, 057, 061, 063, 066, 083, 087, 104, 114, 124, 125, 167	Bird Strike	13	OWSE
035, 038, 043, 055, 060, 062, 064, 065, 088, 093, 094, 096, 098, 100, 101, 102, 105, 115, 117, 118, 122, 123, 130, 136, 138, 157	Bird Strike	26	Incident

Figure 9 below shows the trend of the reported birdstrikes per each month during 2017, 2018 and 2019.

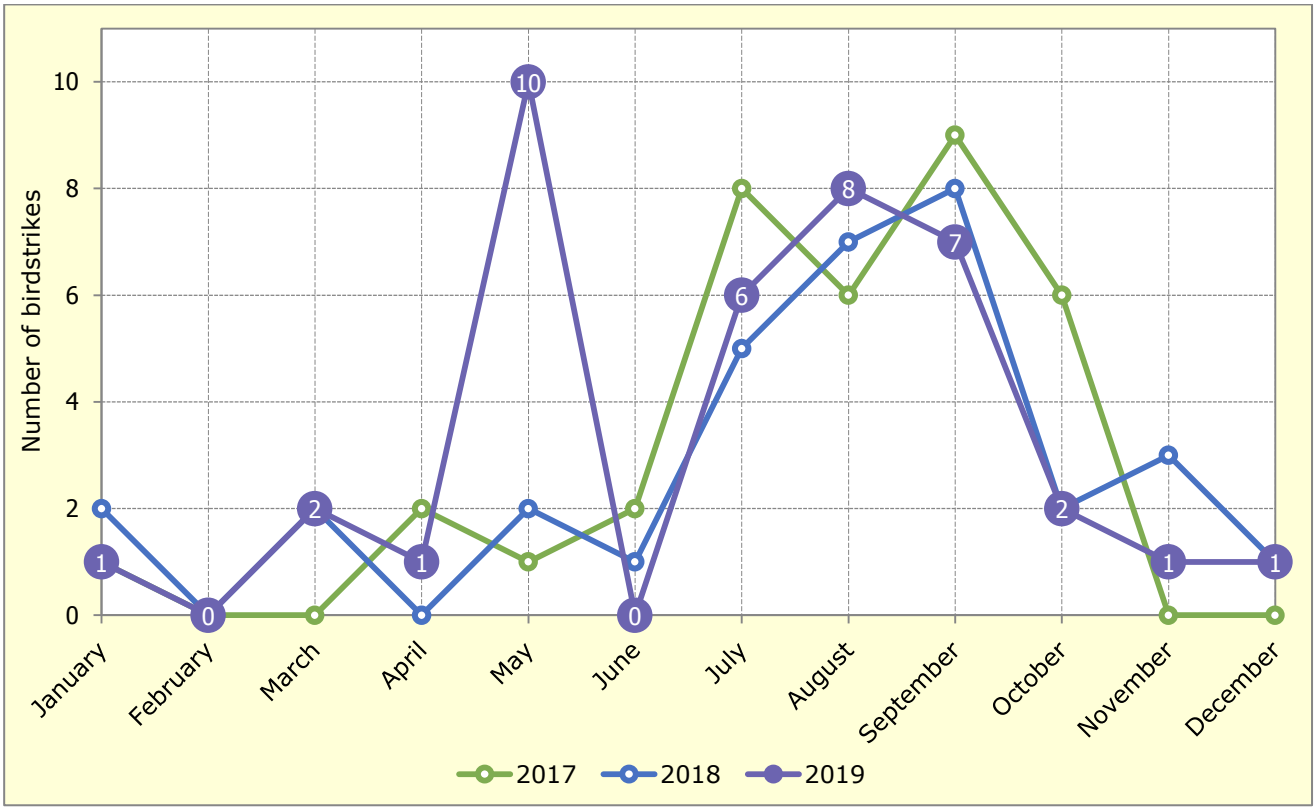


Figure 9. Birdstrikes reported during 2017, 2018 and 2019

As shown above, the trend of the reported birdstrikes in 2019 remained approximate to the trend of birdstrikes in 2018 and 2017, although the number of reported birdstrikes in May was slightly higher compared to the same month in previous years. Out of the total number of 33 reported occurrences, the aerodrome operator has confirmed 23 birdstrikes.

Based on the best practice standards produced by the International Bird Strike Committee (IBSC) and those adopted by the International Federation of Air Line Pilots' Associations (IFALPA), a confirmed or unconfirmed birdstrike occurrence has been standardised as follows:

Confirmed birdstrike: Any reported 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. Bird remains or complete carcass found on an aerodrome where there is no other obvious cause of death should be treated as a confirmed strike and reported as such accordingly.

Unconfirmed birdstrike: Any reported collision between a bird/wildlife and an aircraft 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 10 shows the number of confirmed birdstrikes per month during 2017, 2018 and 2019.

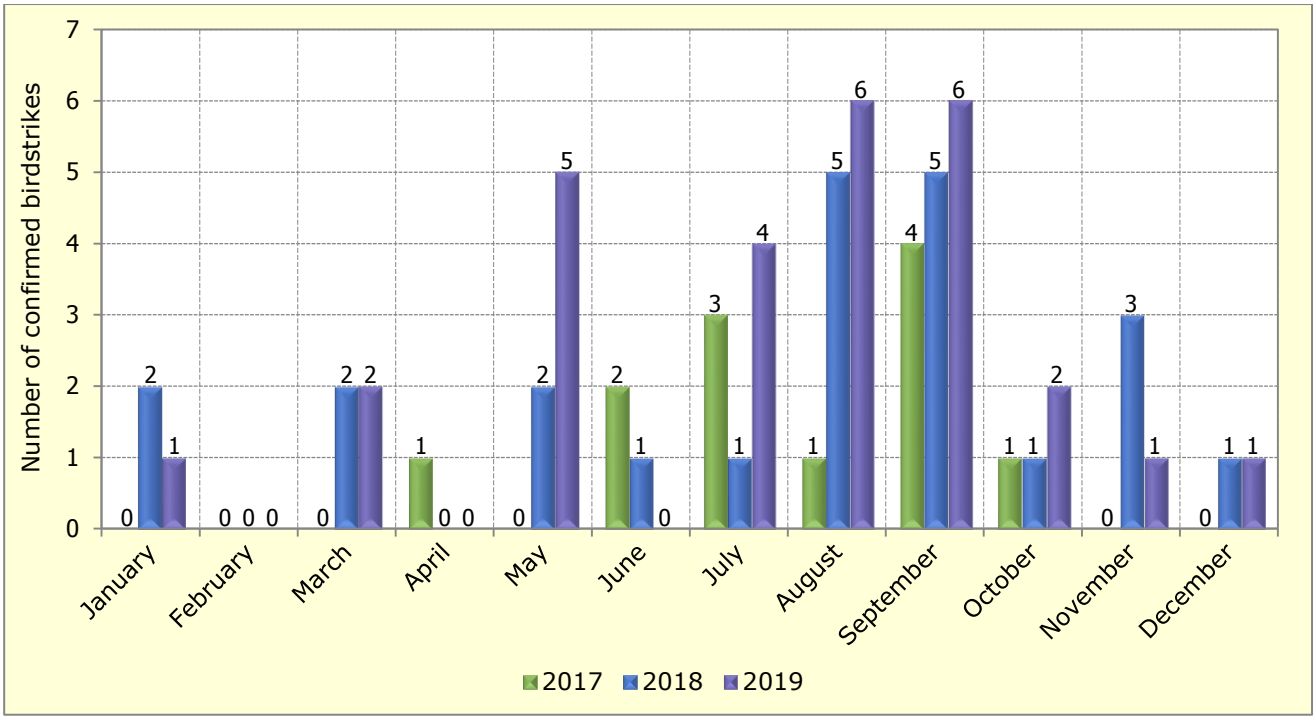


Figure 10. Confirmed birdstrikes reported during 2017, 2018 and 2019

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 the high peak season at PIA, weather conditions, harvesting season nearby the airport boundaries, etc. In addition, extensive earthworks, as part of the runway extension project that is taking place at Prishtina International Airport "Adem Jashari", may have contributed in increased number of reported occurrences. As in previous years, the largest number of confirmed birdsrtikes in 2019 involved bird species such as kestrels (small falcons that hunt small mammals and large insects), buzzards and other small birds.

CTOL: Collision with obstacle(s) during take-off and landing. Collision with obstacle(s), during take-off or landing whilst airborne.

As listed below, one of the occurrences reported in 2019 was coded into the CTOL category, the category that was coded for the first time in 2019. And this occurrence was classified as serious incident.

File Number(s)	Headline of Occurrence	Number of Occurrences	Occurrence Class
074	Powered Hang-Glider Crash	1	Serious Incident

This serious incident, involved a powered hang-glider that performed an off-field landing into an agricultural field, near a village, where it collided with an obstacle. The pilot of the aircraft decided to land into this field due to the vibrations that were coming from the hang-glider's propeller, after one of its three blades was broken by his helmet, when the helmet was thrown off his head. Because of these events that led to the serious incident this occurrence was also coded into the OTHR category.

As a result of the crash, the pilot sustained lower extremity injuries, the aircraft was substantially damaged, and the crop on the field was damaged in an area of around one are. Kosovo Police has initiated a case of Accidental Injury. While, the CAA has also initiated proceedings to evaluate the pilot's actions and take appropriate measures against him if necessary.

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

LOC-G: Loss of control - ground. Loss of aircraft control while the aircraft is on the ground.

As listed below, one of the occurrences reported in 2019 was coded into the LOC-G category, the category that occurred for the first time in 2019. This occurrence was classified into the most severe class, the Accident class. And only one occurrence, the below listed occurrence, was classified as accident in 2019.

File Number(s)	Headline of Occurrence	Number of Occurrences	Occurrence Class
133	Paraglider Crash	1	Accident

This accident, involved a tandem paraglider that crashed during launching. The accident occurred after the paraglider lost control while it was on the ground, when the tandem passenger stumbled while running during the launch, and the tandem pilot fell over him. The wing was partly formed, but part of it deflated, and the pilot didn't manage to recover from the deflation. The paraglider took-off, glided for a short period of time, but then it crashed to the ground. As a result of the crash, the paraglider tandem pilot was killed, while the tandem passenger paragliding with him sustained serious injuries. The injured passenger was carried to a regional hospital for treatment.

The accident was investigated by the Aeronautical Accident and Incident Investigations Commission of Kosovo (AAIIC) and the report of the accident will be published soon.

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.

The below two occurrences reported during 2019 were coded into the MAC category. Both of these occurrences were classified as incidents.

File Number(s)	Headline of Occurrence	Number of Occurrences	Occurrence Class
029	Formation Flight of Helicopters in Proximity to Commercial Jet	1	Incident
159	Traffic Advisory Warning Triggered	1	Incident

The first occurrence involved a formation flight of three military helicopters, which was in proximity to a commercial aircraft that was in final approach. TWR controller informed the commercial aircraft regarding the position and altitude of the formation flight, which was proceeding towards the northwest. But the proximity wasn't a factor to the commercial aircraft, so the controller called and informed KFOR. Also the CAA wrote to KFOR, who informed back the CAA that all the pilots of the KFOR helicopter detachments have been addressed in order to become familiar with this occurrence.

The second occurrence "Traffic Advisory Warning Triggered" involved a commercial aircraft that reported activation of Traffic Advisory (TA) to Skopje ACC, after it was transferred to that ATC unit. Prishtina APP confirmed that at that time no traffic was reported and that the radar was temporarily unserviceable. The occurrence was followed-up with the airline and the pilot, who clarified that no visual contact with the target was ever achieved and no Resolution Advisory (RA) was triggered. The ATC and the pilot agreed that the TA was most likely caused by a low-flying aircraft without a Mode C code.

NAV: Navigation error. Occurrences involving the incorrect navigation of aircraft on the ground or in the air.

As listed below, three of the occurrences reported in 2019 were coded into the NAV category, the recently introduced occurrence category. All three of these occurrences were classified as incidents.

File Number(s)	Headline of Occurrence	Number of Occurrences	Occurrence Class
069	Infringement of Minimum Enroute Altitude	1	Incident
084	Descending Below Minima	1	Incident
126	Noncompliance with STAR/VOR Approach Procedure	1	Incident

The first two occurrences (File No. 069 and 084) involved two aircraft of one airline, which in two separate occasions, when cleared to descend via STAR for XAXAN 35A arrival, before the distance of 21.5 NM from PRT, descended below the minimum altitude of 10000 feet. The CAA has informed the airline and received a response from the airline, explaining a later similar occurrence and acknowledging that its crew had some misunderstanding of the approach chart. The airline has informed the crew about the ATC query and asked them to review in more details STAR (Standard Terminal Arrival Route) pre-descent and approach briefing. On the other hand, two departments within the CAA are reviewing if the airport approach chart and approach procedure XAXAN 35A can be improved.

While the third occurrence (File No. 126) involved an aircraft, which when cleared for XAXAN 35B arrival - VOR/DME S Approach RWY35, while descending on outbound leg, was late in performing the right turn as per the procedure. RDR controller instructed the aircraft to climb higher due to MVA/MSA (Minimum Vector Altitude/Minimum Sector Altitude), what the aircraft

has done and later landed safely at BKPR. The CAA has informed the airline about the occurrence report from ATC.

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).

As listed below, during 2019 there were eight occurrences involving ground handling services.

File Number(s)	Headline of Occurrence	Number of Occurrences	Occurrence Class
079	Undeclared Dangerous Goods	1	Incident
106	Carriage of Forbidden Dangerous Goods in Carry-on Baggage	1	Incident
107	Carriage of Forbidden Dangerous Goods in Checked Baggage	1	Incident
111	Unauthorised Pushback	1	OWSE
116	Parking Stands Changes	1	Incident
144	Parking Stand Discrepancy	1	OWSE
154	Damaged and Wet Shipment of Dangerous Goods	1	Incident
166	Rush Baggage Containing Dangerous Goods Wrongly Forwarded to Prishtina	1	OWSE

The first occurrence (File No. 079) involved undeclared dangerous goods, about 250-300 smartphones (portable electronic devices - PED), of a passenger. The PED that were placed in 4 suitcases, were discovered by the Screening Unit during the screening of checked baggage. The PED were not packaged properly, no cushioning material was used to prevent interaction between them. And since only a maximum of 15 PED are permitted their loading was denied. The PED were returned to the passenger, who was allowed to board the aircraft without them.

The next two occurrences (File No. 106 and 107) involved carriage by air of forbidden dangerous goods in carry-on baggage and in checked baggage by two passengers, on different flights of one airline. The first occurrence involved a pepper spray (disabling device, aerosol, non-flammable) that was placed in a passenger's hand bag and was discovered during the flight by the cabin crew members. The pepper spray, which is an article of dangerous goods forbidden for carriage on the person, in checked and carry-on baggage, was stored in the cockpit for the rest of the flight and after landing it was handed over to the handling agent. The second occurrence involved four flammable aerosols (paint, flammable gas) that were placed in a passenger's checked baggage and were discovered during the security screening of the baggage arriving from Prishtina to the transit airport. These flammable aerosols, which are forbidden for carriage in checked baggage, were removed from the passenger's baggage before he continued his journey to the final destination. The CAA has informed about these occurrences the Civil Aviation Security Division, Ministry of Internal Affairs (MIA), who has verified that in both occurrences the on duty screening operators have failed to identify the dangerous goods contained in the baggage, and that appropriate measures have been taken against both of these operators. The CAA and the MIA are reviewing if there have also been shortcomings in the performance of the duties of the passenger handling agents, and if the airport operator needs to keep an internal database to record, monitor and

analyse items of dangerous goods and prohibited items found pre-flight in checked/carry-on baggage and the need for sharing of these information.

The occurrences with File No. 111, 116 and 144, two of which were classified as occurrences without safety effect and one of them was classified as incident, were caused due to miscommunication between the ground handling operator and the ANSP during aircraft ground movements. The occurrences didn't have major safety impact on aircraft operations, however, they were treated seriously by the involved parties.

The occurrence with File No. 154 involved a package containing dangerous goods that arrived through a transit airport at the Prishtina International Airport (PIA) warehouse in a wet and damaged condition. The warehouse personnel have acted according to the emergency plan. While, the occurrence with File No. 166 involved a rush (expedite) baggage containing dangerous goods that was wrongly forwarded to PIA, and which while screened before its return to the origin airport was discovered to contain lithium ion batteries contained in equipment. And since the equipment incorporating lithium ion batteries was locked (the batteries were installed inside the equipment and not visible from outside) and there was no label or document describing the batteries, PIA staff couldn't check if these lithium cells or batteries were in compliance with the regulations and they didn't load the bag into the aircraft.

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

As listed below, six occurrences reported during 2019 were coded under the SCF-NP category and they were all classified as incidents.

File Number(s)	Headline of Occurrence	Number of Occurrences	Occurrence Class
045	Problems with Bleed Air System	1	Incident
076	Problem with Flaps	1	Incident
080	Rejected Take-Off	1	Incident
091	Nose Wheel Steering Fault	1	Incident
095	Rejected Take-Off due to Hydraulic Leakage	1	Incident
113	Rejected Take-Off due to Flight Management System Failure	1	Incident

The first incident (File No. 045) involved a commercial aircraft that encountered problems with the bleed air system while approaching Prishtina International Airport (PIA). The crew requested a Ground Power Unit (GPU, which provides air conditioning on ground for the cabin) on stand and didn't request any other assistance. The approach and landing were uneventful. While the airline has informed the CAA that the RH bleed system failed and the respective bleed valve was subsequently closed, and that during the subsequent flight a reset of the bleed system was performed by the crew and no further faults were reported.

The second incident (File No. 076) involved an aircraft that faced a problem with flaps while on final approach for landing at PIA. The crew performed go-around with standard procedures and entered holding over VOR for checklist procedures. Air traffic controller alerted the Fire Station for local stand by, although the pilot didn't declare emergency. After two holdings the pilot requested to continue the approach and he landed the aircraft safely. The airline has sent to the CAA the pilot report and Flight Data Monitoring (FDM) analyses, clarifying that the leading edge

(LE) flaps transit fault occurred during the final approach, that the crew completed the leading edge flaps transit checklist and at the end of checklist they performed a stabilized approach (with flaps15) and a standard safe landing.

The third incident (File No. 080) involved an aircraft that rejected take-off after the roll-out was initiated. The pilot in command requested to taxi back to the stand to perform a system check/reboot. When on the stand the passengers were allowed to disembark. The airline has sent to the CAA the pilot report and a copy of the aircraft technical log entry, describing that the pilot noticed missing information on FMC (Flight Management Computer) and decided to return to the stand for an additional check, that after the check the system started to work normally and the flight was performed with a delay of about three hours.

The fourth incident (File No. 091) involved an aircraft that, during normal descent to PIA, informed ATC that they got an ECAM indication of Nose Wheel Steering fault. The crew continued the approach, they confirmed that this would be a normal landing and that no other assistance was required. After landing they requested to be towed to the parking position and they were towed to Delta Apron. The airline has sent to the CAA the pilot report and a copy of the related aircraft technical log page, which describes that the crew performed the required procedures and cross checked with FCOM to avoid missing of any information about the failure, and that after landing they requested to be towed due to the status. The passengers were informed about the failure and towing, and they disembarked the aircraft by stairs. After parking, a maintenance engineer attended the aircraft and performed a system reset. Subsequently, an operational test of the Nose Wheel Steering with the CFDS was performed without findings. Also, a functional test of the Nose Wheel Steering with the handwheel was performed without findings, and the aircraft was released back to service.

The fifth incident (File No. 095) involved an aircraft that rejected take-off at PIA due to hydraulic leakage. The aircraft vacated the runway and returned safely to the apron, where it was checked and released to service by aircraft technicians. The aircraft departed PIA with an overall delay of about 7 hours. While the aircraft was still at PIA, the CAA inspectors conducted a SAFA inspection of this aircraft, during which they found out that aircraft technicians of another airline had replaced a damaged O-ring on PTU (Power Transfer Unit) half coupling connection, fixed the problem of hydraulic fluid leakage and released the aircraft to service. The inspectors took photographs of the aircraft Tech Log and other relevant documents and found no findings that would affect airworthiness of the aircraft.

The sixth incident (File No. 113) involved an aircraft that, after it was cleared for take-off and started to roll, rejected take-off due to Flight Management System failure. The aircraft vacated the runway, and after few minutes the pilot requested to taxi back the runway. Then, the pilot reported that everything was fine and that they were ready for departure. The airline has sent to the CAA the pilot report, which states that the take-off was rejected at very low speed (below 60 kts) due to a caution message “engine thrust levers not set” and that the second take-off was uneventful. The airline didn’t initiate any formal investigation since the response of the crew was according to the operating procedures and the abnormal condition leading to the message could be solved.

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

File Number(s)	Headline of Occurrence	Number of Occurrences	Occurrence Class
070	Aborted Take-Off	1	Incident

As listed above, only one occurrence reported during 2019 was coded under the SCF-PP category.

The occurrence with File No. 070 that was classified as incident involved an aircraft that aborted take-off at PIA. After the aircraft was cleared for take-off and while on rolling it reported aborted take-off due to unstable engine run. The aircraft vacated the runway and made an engine check. Then, after 27 minutes, it performed the second take-off that was uneventful.

SEC: Security related (including **LA: Laser attack** sub-category)**.** 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.

As listed below, during 2019 there were 13 occurrences related to laser attacks (pointing a laser at an aircraft in flight) reported to the CAA, and they were all classified as incidents. These incidents involved laser attacks on both civilian and military aircraft. Most of these incidents occurred during the approach and departure phase of flight, when aircraft operate at low altitudes. All the involved aircraft landed safely at PIA or flew safely to their intended destinations.

File Number(s)	Headline of Occurrence	Number of Occurrences	Occurrence Class
008, 015, 086, 097, 110, 112, 132, 135, 139, 140, 141, 142, 163	Laser Attack	13	Incident

Figure 11 below presents a comparison of the reported laser attacks by month during the years 2017, 2018 and 2019.

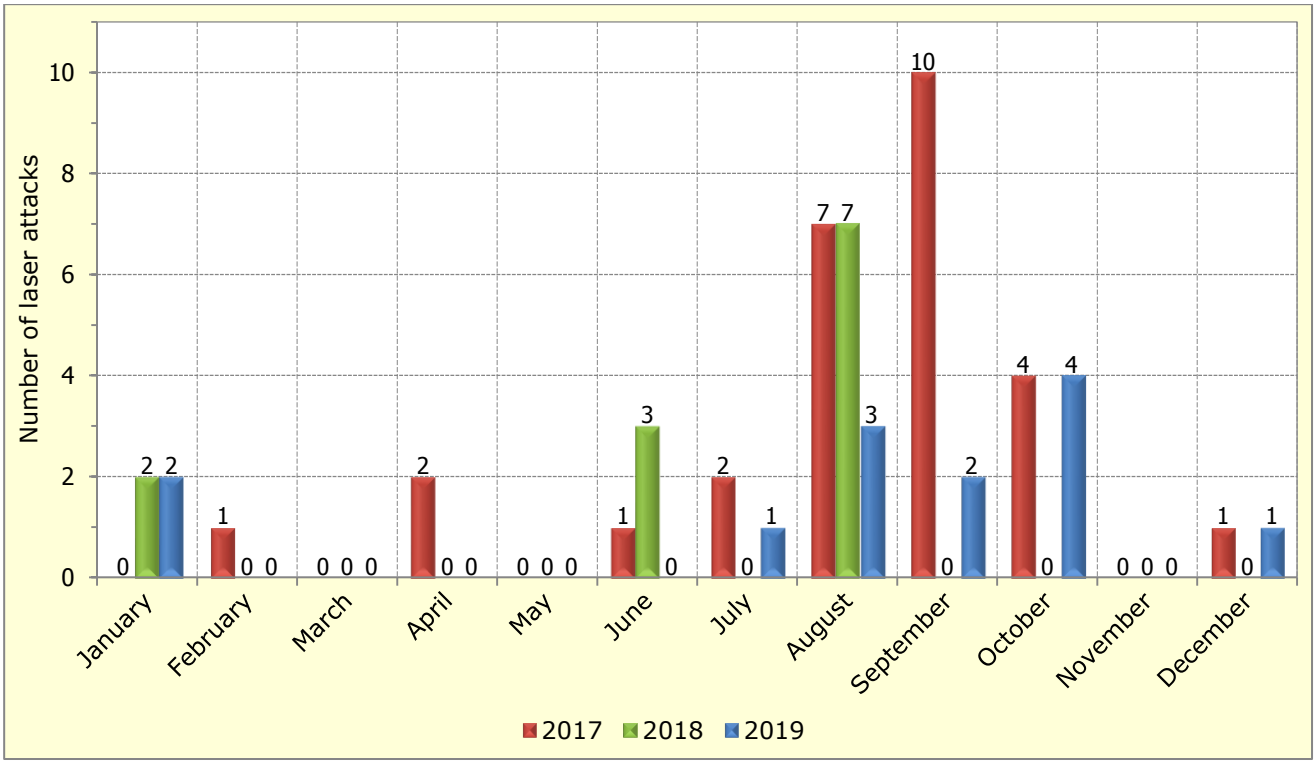


Figure 11. Laser attacks reported during 2017, 2018 and 2019

The number of occurrences related to laser attacks in 2019 remained almost at the same level as in 2018, when 12 attacks were reported, which was a significant decrease compared to the number of laser attacks in 2017 and 2016, when 28 and 24 attacks were reported, respectively. And this decrease is a very welcomed fact because of the severe effects that these occurrences may have on the safety of aircraft operations.

Reduction of the number of laser attacks was included in the agenda of a meeting that was held between the CAA Director General with his associates and the Kosovo Customs Director General, on 1 August 2019. During the meeting, it was discussed the mutual institutional cooperation in the field of civil aviation safety standards, including the cooperation between the two respective institutions in the prevention of activities which pose a risk to the aviation safety, such as laser attacks.

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.

The below figure illustrates the visual effect hazards, and hazard distances, of a laser pointed at an aircraft during critical phases of flight, such as take-off and landing.

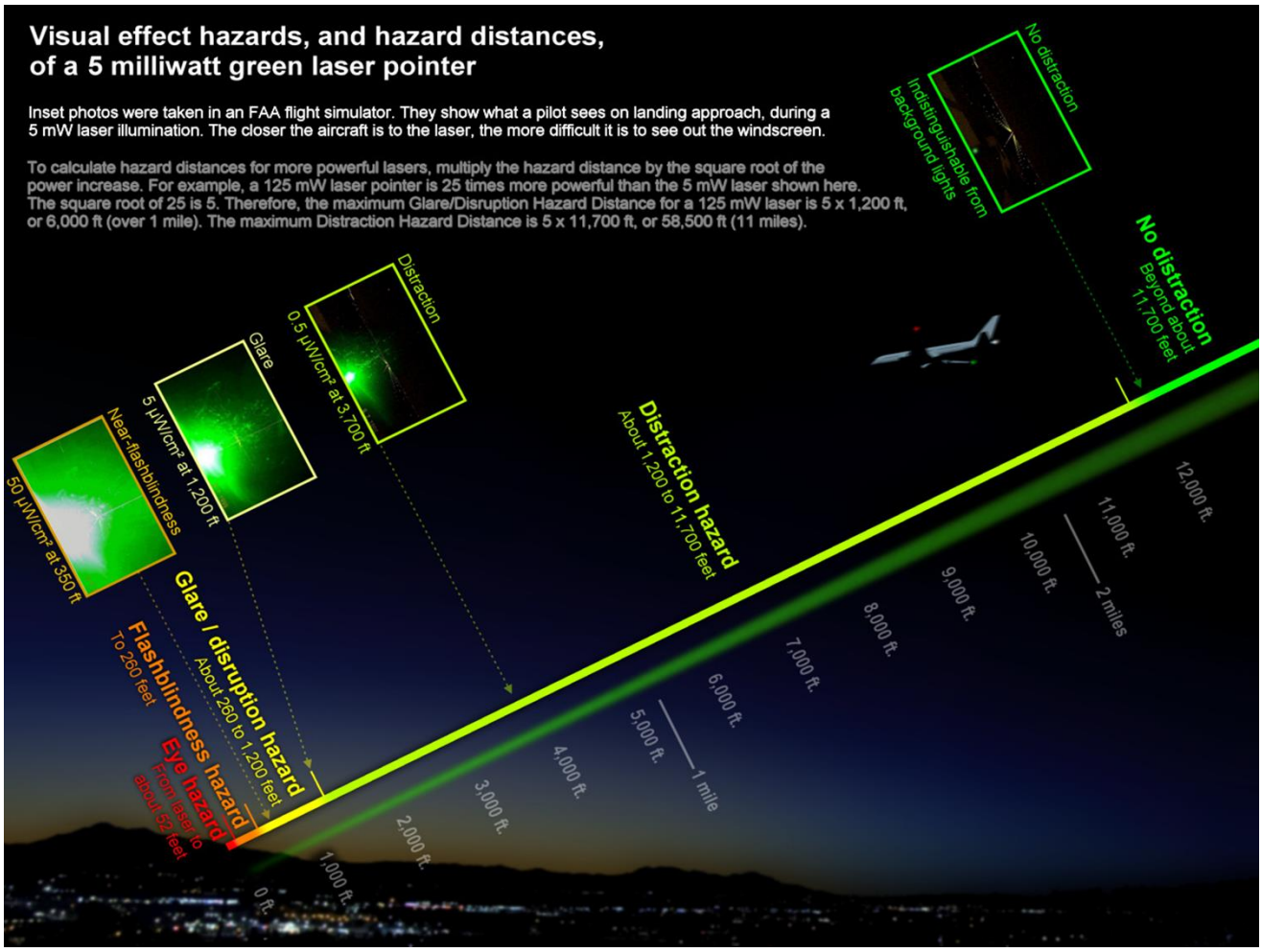


Figure 12. Visual effect hazards, and hazard distances, of a 5 milliwatt (mW) green laser pointer (Courtesy of: Patrick Murphy, International Laser Display Association)

Lasers are not illegal, what you do with them can be. 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.

WILD: Collision Wildlife. Collision with, risk of collision, or evasive action taken by an aircraft to avoid wildlife on a runway or on a helipad/helideck in use.

As listed below, five of the occurrences reported during 2019 were coded into the WILD category, the recently introduced occurrence category, and all these occurrences were classified as incidents.

File Number(s)	Headline of Occurrence	Number of Occurrences	Occurrence Class
023, 034, 068	Dog Crossing Runway	3	Incident
036	Dog on Manoeuvring Area	1	Incident
089	Dog on Runway	1	Incident

The presence of wildlife (birds and animals) on the aerodrome and its vicinity poses a serious threat to safe flight operations. In order to manage the wildlife and to minimize the likelihood of collisions between wildlife and aircraft, LKIA has developed a Wildlife Hazard Management Plan (WHMP), which has been reviewed and approved by the CAA.

In order to manage the wildlife more efficiently and taking into account the fact that occurrences involving dogs were reported also during the past year, the aerodrome operator has intensified on-site inspections, with the special focus on the identified problematic parts of the security perimeter fence. However, during 2019 the above listed five occurrences involving presence of dogs have occurred on the airside of PIA. Consequently, the aerodrome operator has taken additional actions and has demonstrated its determination to reduce the reoccurrence of these events to the minimum.

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

File Number(s)	Headline of Occurrence	Number of Occurrences	Occurrence Class
006	Wrong Taxiing	1	Incident
046	Inability to Take-Off	1	Incident
052	Airspace Infringement	1	OWSE
058	Complaint about Closure of Taxiway	1	OWSE
071	Airspace Infringement (Unapproved Flight)	1	Incident
074	Powered Hang-Glider Crash	1	Serious Incident
077	Return to BKPR due to No Flight Plan	1	Incident
082	Denied Entry Clearance from Serbia	1	OWSE
092	Dangerous Goods Carried without Permission of CAAK	1	Incident
108	Airspace Infringement	1	Incident
119	Airspace Infringement (No Coordination with ATC)	1	OWSE

137	No Information about Flight, No CAA Permit, and No ROL	1	OWSE
164	Distorted Radio Communication due to Frequency Mistuning	1	Incident
165	Vaccination Flight Crossing Borderline	1	OWSE

As listed above, 14 occurrences reported in 2019 were coded into this category. As can be seen from Figure 4, this number is slightly higher than the number of occurrences reported in this category in 2018 and 2017, when 11 occurrences were reported each year. Six out of the fourteen occurrences coded into this category were classified as occurrences without safety effect, seven of them were classified as incidents, and one of them was classified as serious incident.

The occurrence with File No. 006, which was related to the wrong taxiing of a military aircraft, was caused due to adverse environmental conditions (heavy snow). This incident didn't have major safety impact on aircraft operations, however, the aerodrome operator revised its procedures for aircraft guidance during heavy snowing.

The occurrence with File No. 046 involved an aircraft that aborted take-off after it was cleared for take-off. The pilot requested to vacate the runway via the nearest taxiway and to line-up again on the same runway. The aircraft departed uneventfully after 6 minutes. The airline has analysed the incident based on the pilot report and the data from their Flight Data Monitoring (FDM) system, and explained to the CAA that the pilot aborted the take-off run at a low speed due to a strong yaw moment caused from a difference in engine thrust between Engine 1 and Engine 2. The FDM data revealed that the take-off power setting wasn't applied properly during the Step 1 setting (all engines from idle to about 50% N1), Engine 2 had a longer "spool up time" and the "50% N1 stabilization on both engines" was not awaited. The airline has also informed the CAA about the corrective actions they have taken in order to learn from this incident and to avoid similar occurrences in the future.

Five of the above listed occurrences reported in 2019, with File No. 052, 071, 108, 119 and 165, were related to airspace infringements. Two of these occurrences (File No. 071 and 108) were classified as incidents and they were investigated in detail by the CAA inspectors. Regarding the occurrence with File No. 071 senior CAA inspectors visited Skopje, where they discussed this occurrence with their counterparts and with the representatives of the North Macedonian ANSP. While, regarding the occurrence with File No. 108, a comprehensive investigation report was sent to all relevant parties, including the Prime Minister's Office, the Ministry of Defence and NATO. The other three occurrences had no impact on aviation safety.

The occurrence without safety effect with File No. 058 was related to a complaint made by a flight crew to Prishtina ATC regarding the closure of taxiway during construction works around the runway.

The occurrence with File No. 074, which was classified as serious incident, involved a powered hang-glider that encountered breakage of one blade of its propeller and that collided with an obstacle while performing an off-field landing. This serious incident was also coded into the CTOL category, due to the collision with the obstacle on the field, and a more detailed explanation of the incident is given in the CTOL category above.

The incident with File No. 077 related to the problems with coordination between the FMU and ATC units, when one flight was forced to return to Prishtina International Airport (PIA), after it was revealed that the take-off was cleared without a valid flight plan. The incident was investigated

by ANSA and an investigation report was submitted. The CAA is following-up the implementation of the submitted recommendations.

The occurrence with File No. 082 involved a VFR flight that was denied entry into Serbian airspace when the pilot was trying to deviate from the submitted flight plan due to bad weather. The CAA inspectors have drafted a report on this occurrence, which has been shared with the relevant parties.

The occurrence with File No. 092 involved a shipment of dangerous goods (radioactive material) that was transported to PIA without permission of the CAA for carriage of dangerous goods by air. The airline, which was transporting dangerous goods to PIA for the first time, has stated to the CAA that they were sorry for the incident and expressed their commitment to adhere to Kosovo regulations in the same way as they adhere to other international regulations. The airline also imposed a temporary dangerous goods embargo to PIA, in order to ensure that no shipments would fly without the CAA permit, until they clarified and arranged internally how to comply with the relevant regulations.

The occurrence with File No. 137 was related to a flight that requested entry into Kosovo airspace, but it had not obtained the adequate approvals. Entry into the airspace was allowed following close coordination between the ANSA, KFOR and CAA officials. The CAA conducted an investigation into the matter and shared the report with recommendations with all relevant parties.

The occurrence with File No. 164 involved a distorted radio communication between the crew of an aircraft on final and ATC. The incident occurred when ATC was giving instructions for landing to the pilot, but the transmission was unreadable by the pilot and there was no reply from him. The pilot tried to call ATC on another frequency, in which he was read aloud and clear, but again he didn't reply. Then he requested ATC to click two times on frequency to confirm landing, which ATC did. The aircraft landed safely, but the pilot still couldn't read ATC, and while vacating the runway he requested Follow Me vehicle to escort him to the stand. Finally, ATC got a replay from the pilot that he could read them and that he had some problems with the radio that were fixed in the meantime. According to the pilot report, which was sent to the CAA by the Safety Manager of the airline, the root cause of the distorted radio communication was the wrong setting of the ATC frequency by the first officer - the Pilot Monitoring (PM). PM has mistuned the last digit of the ATC frequency, what has resulted in a distorted readability of ATC instructions (readability 1/5), while the radio system of the aircraft has been fully operational. PM hasn't realized mistuning of the frequency until on ground, when they were entering the stand, when the situation was explained to ATC.

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