Safety Report

2016-2017

EDITION:1.0

Date. 20.12.2018

CIVIL AVIATION AGENCY
Republic of Macedonia

Foreword by Director General

Without fast and efficient mobility, the world we know today would not exist. Transport enabled trade and modern connectivity have a fundamental role to play in modern lives, in business and beyond. Transport is a key component of meeting the SDGs and global aviation is a driver of sustainable development, bringing together people, businesses and communities. Safe, reliable, efficient and cost-effective air transport is an essential component of a broader mobility strategy to help achieve the United Nations 2030 Agenda for Sustainable Development.

It is estimated that over a third of the value of goods traded internationally are delivered by air. This means that from approximately 58 million jobs across the globe and $2.4 trillion in economic activity dependent on the aviation sector, its safety is critical to the health of the global economy. Safety in aviation encounters great deal of attention in global manner. All the questions that arises and create high amount of interest for safety is undoubtedly strongly prompted by the statistics of the fatal accidents from the recent years. It is indisputable that the aerospace industry has always been deeply concerned with the prevention of accidents and the conscientious safeguarding of all factors in aviation. It is generally noticed that Air Traffic Sector greatly cares for the safety of its customers by providing smooth, efficient and effective operation of air traffic services.

Since the beginning of the jet age 60 years ago, to the present day, stakeholders in the aviation industry have worked continuously to improve the sector's safety performance. By 2050 it is estimated that some 16 billion passengers – equivalent to more than double the current global population of around seven billion.

Most importantly, aviation safety continues to be improved. Most of the developing countries throughout the world have improved their safety statistics as the industry in general has adopted a much more proactive approach.

The year 2017 saw 4.1 billion people travel across the world. In 2017 was recorded only 50 fatalities for scheduled commercial departures. This means that the year of 2017 had a global fatality rate of 12.2 per billion passengers, in which ICAO says it represents "the safest year ever on record for aviation". The accident rate rose by 0.3 to 2.4 from 2.1 in 2016 but is still a low rate since 2015, when 2.8 accidents were recorded, 3.0 in 2014 and 2.9 in 2013 overall. *(ICAO Safety report 2017).

The rapid progress of the technology of instrumentation, new aircraft designs, as well as their control systems and methods need to be improved in order to meet the future demands of the safety of the next Aerospace Industry in the period that comes.

The long-term improvement in global airline safety is due to a combination of several high impactful trends. Especially in the past 30 years we can see great evolution in the safety underpinned by innovation in technology, including aerodynamic and airframe improvements, better navigation system, engine improvements, improvements to cockpit instrumentation and displays and winglets etc. It is also embracing new business models which can put pressure on safety and addressing the arrival of new air vehicle types such as drones.

Nowadays, aviation safety research and innovation address the key risks, as well as the systemic issues that underpin effective safety governance across the entire industry, and the emerging issues such as drone safety. This safety research has huge significance because involves collaboration between diverse European centres of expertise that are focusing on overcoming today's key risks and keeping the future aviation system resilient against future risks.

So, the aviation safety research has still a space for improvement on how to spread safety culture across the aviation community to the extent that safety data and information are willingly shared and analysed, which will lead to better safety intelligence and a risk-based research agenda.

This is a timely opportunity for an upgrade of the aviation safety that will lead to more effective research, whether focusing to significantly reduce or mitigation of key risks, dealing with systemic issues or emerging risks and safety opportunities.

From the organizational point of view safety management is more focused on ensuring that all the actors involved in aviation have the right information at their fingertips to stay on the top of safety, as well as to ensure a robust safety culture for the new aviation segments such as unmanned aircraft. Regarding the human factors in aviation safety research needs to improve where the future safety governance systems will ensure safe integration of drones, sky taxis and personal air vehicles into the aviation system.

Only with increased safety measures through joint efforts in research, development and the implementation of unified high standards in aviation, the number of accidents can be reduced or at least kept in some minimum acceptable level.

By M.S.E.E. Goran JANDREOSKI MBA Aviation

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1. Institutional overview of safety domain in the Republic of Macedonia

1.1. International obligations

In this chapter we represent the aviation safety regulatory framework of the Republic of Macedonia as an ICAO member state. The relationship between the state bodies and the legislative i.e. regulatory context will be explained and elaborated.

The Republic of Macedonia, as the signatory to the Chicago Convention, is responsible for the implementation of ICAO SARPs affecting flight operations, airspace and navigation services, as well as the aerodromes within its competence. These responsibilities include both regulatory functions (licensing, certification, etc.) and safety oversight functions to ensure compliance with the regulatory requirements entrusted to the Civil Aviation Agency.

Each State is obligated to make provisions for the safety of the aviation system within its jurisdiction. However, each State is but one component of the larger global aviation system. In this context, the Republic of Macedonia also has a responsibility for meeting the requirements of the larger international system.

Table below shows the international levels of participation and date of acceptance of the Republic of Macedonia in various international organizations and initiatives.

Table 1 International Aviation Framework

Year	Institution
1993	ICAO Acceptance
1993	ITU
1997	ECAC
1998	EUROCONTROL
2006	ECAA Agreement
2008	European Joint Aviation Authorities
2009	EASA (Working Arrangement)
2011	Implementation of Single European Sky in South East Europe

1.2. National Safety Regulatory Framework

In terms of the responsibilities for the Civil Aviation Agency (CAA) the safety regulatory framework covers a set of regulations aimed at meeting the requirements for safe services of air transport at global, regional and local level. Even though the CAA is responsible for the implementation of safety regulatory framework, there is a number of bodies that are involved as defined by the Constitutional Act and is composed of national Laws and by-laws.

Adoption of primary legislation and ratification of international agreements is under the responsibility of Parliament, while the national Aviation Act enables the CAA to establish the National Supervisory Authority. National Aviation Act ensures the legal basis for separation of regulatory function from service provision with the adequate implementation of certification and safety oversight processes.

The following figure shows the inter-relations related to the institutional framework of the aviation safety.

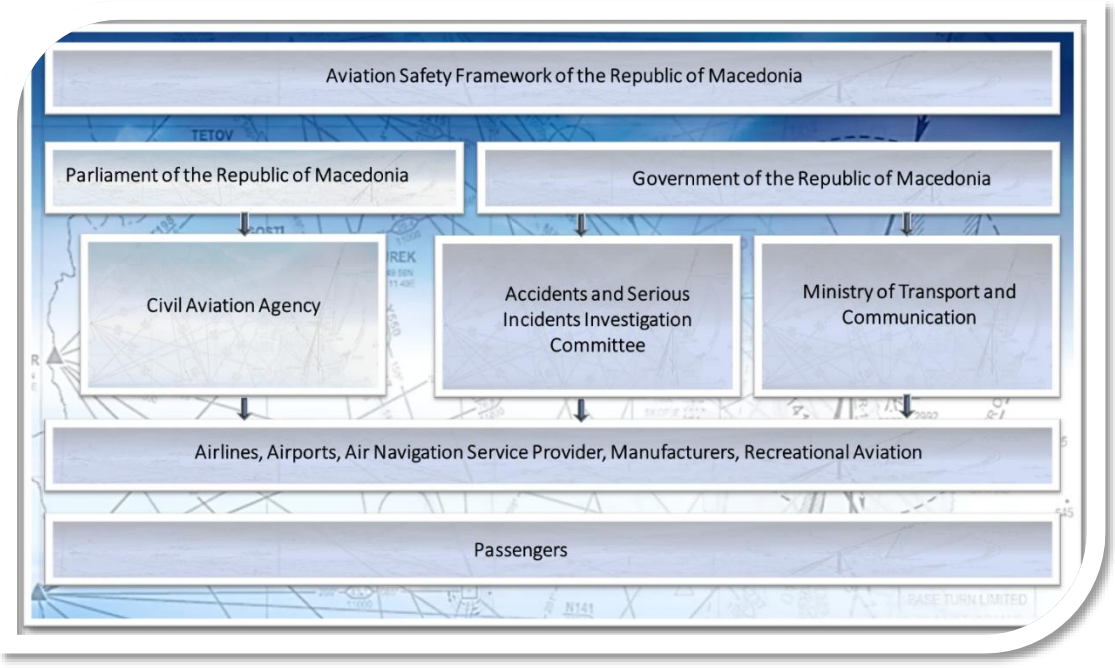


Figure 1 Aviation Safety Framework in the Republic of Macedonia

The regulatory framework and the safety requirements are continuously amended and strengthened in order to improve the safety performance and meet the future challenges arising from the implementation of the new air navigation concepts and the need to provide sustainable development of civil aviation.

1.3. Civil Aviation Agency

Civil Aviation Agency was established in 1995 under the Ministry of Transport, while with the new Aviation Act it became independent Authority outside of the MoT. Nowadays CAA is independent regulatory body with full political, financial and functional independence from any other state authority, legal person or trading company engaged in aviation activities.

The main bodies of the CAA are the Management Board and the Director General. The Management Board is appointed by the Assembly of the RM. The Director General is appointed by the Management Board.

The functions of the CAA are executed by the following Divisions:

- Division of International-Legal Affairs
    - main regulatory functions related to regulation of safety, security, economic aspects of air transport etc.
- Division of Safety of Air Transport and Air Navigation
    - main regulatory functions related to safety of air transport and air navigation.
- Division of Safety of Airports, Search and Rescue
    - main regulatory functions related to safety of airports and airport services.
- Division of Financial Affairs and Economic Oversight
    - functions related to the financial operation of the CAA, as well the economic oversight of airlines, airports and air navigation service providers.

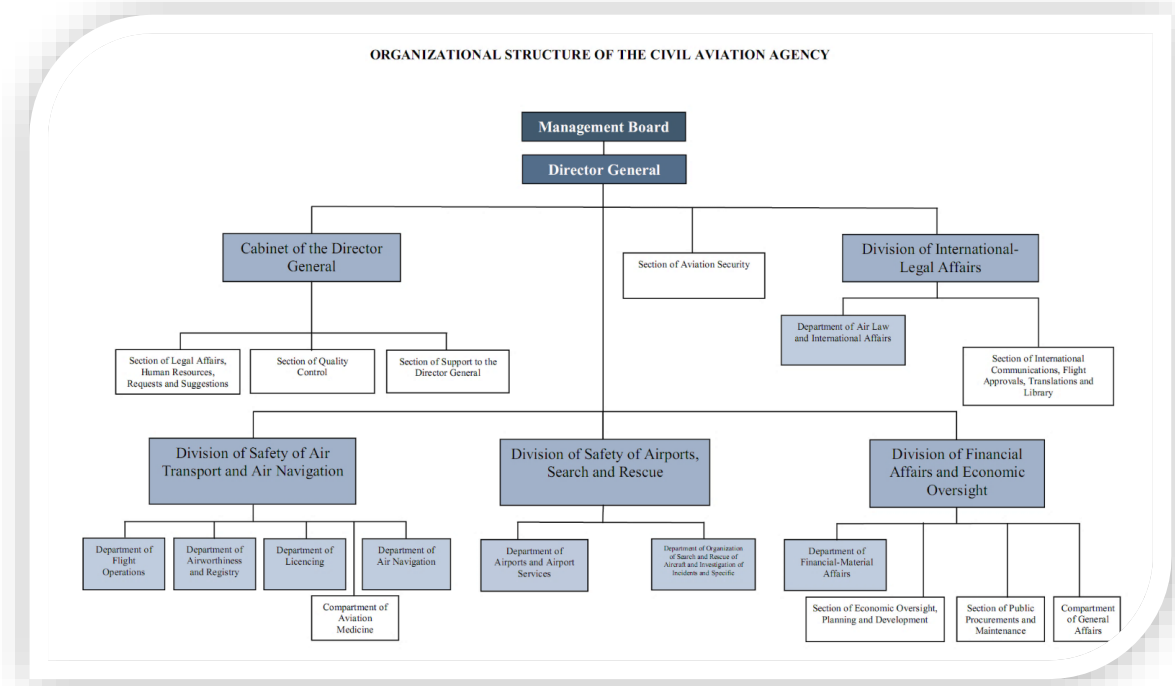


Figure 2 Aviation Safety Framework in the Republic of Macedonia

Main objective of CAA is to define the regulatory framework (drafting of laws and enacting of bylaws related to the applicable international aviation standards, recommended practices and legislation of the EU, ICAO, ECAC, JAA/EASA and EUROCONTROL) and to ensure adequate oversight/supervision activities to enable effective implementation of the regulatory framework. Safety oversight function is vested in the CAA. There are three basic levels of safety regulation:

- The International regulatory framework by the International Civil Aviation Organization (ICAO).
- The regional regulatory framework. In Macedonia's case a good example is EASA and EUROCONTROL providing a high and unified level of safety in civil aviation, with the adoption of common safety rules and measures in accordance with the ICAO Standards and Recommended Practices.

- The national regulatory framework of the national legislation and other normative acts by the authorities of the Republic of Macedonia. The national safety requirements should be in compliance with those established at international and regional level.

Attachment I provides the existing safety regulation of the Civil Aviation Authority divided according to its areas of operation.

1.4. Aviation Safety Projects in the Republic of Macedonia

Support to the Macedonian Civil Aviation Agency - SES Compliance Project

The Macedonian Civil Aviation Agency intends to establish a SES compliant regulatory and organizational framework and to comply with Phase 1 of the ECAA agreement, additionally already transposed SES regulations, national regulatory requirements, SES II regulations even if they are not fully applicable now and prepare for future evolution of SES regulations, not only in respect of the transposition but also related to the oversight and supervision which CAA is required to perform under the regulations. The establishment and compliance of all prerequisites hereinafter referred to as Support to the Macedonian Civil Aviation Agency - SES Compliance project will be performed in several steps.

EUROCONTROL support to the Civil Aviation Agency of the Republic of Macedonia

The Civil Aviation Agency of the Republic of Macedonia requested EUROCONTROL's assistance in performing a number of important tasks to address issues concerning the main business of the two organisations. The EUROCONTROL Convention guarantees support to its Member States. The support requested by the CAA is in line with the EUROCONTROL Support to States Policy and relevant tasks of the Support to States and Regional Initiatives Unit (DPS/SSR). The scope of EUROCONTROL's support relates to the compliance of the CAA's rules, regulations and oversight procedures with the Single European Sky (SES) implementation and the realisation of identified improvements. The aim is to improve the quality of the oversight and its alignment with SES legislation by addressing a number of issues facing the CAA. The main objectives of the CAA are summarised through the alignment with the SES legislation and improvement of the NSA processes and procedures. The benefit of the project is to allow the CAA to further comply with EU and EASA regulations/requirements. The ultimate and implied benefit of the project is to support the European Air Transport Policy and the harmonisation of the European Network as required by the SES Programme.

EASA IPA 4-Programme on aviation safety

The EASA - IPA4 project 2018-2019 project aims to further support the sustainable development of civil aviation and the civil aviation administration systems in the beneficiary countries and to foster deeper the knowledge of the specificities of the EU's aviation safety system stemming from the European Common Aviation Area Agreement (ECAA) and the Working Arrangements (WA) signed by EASA and respective civil aviation administrations to enable easier integration into EU system. Through this project, EASA supports the partner countries' integration into the EU system, by fulfilling their international obligations in the area of air safety and by fostering their knowledge of the EU's aviation safety system. The project is funded by the Instrument for Pre-accession Assistance (IPA), with which the EU supports reforms in 'enlargement countries' through financial and technical help. The project focuses on the numbered aviation safety areas.

TAIEX Expert mission on assessment of the compliance of the national regulations with the eu acquis in the field of aviation

From 14-17 December 2015 the experts from the Italian civil aviation authority ENAC conducted in Skopje the TAIEX Expert mission on assessment of the compliance of the national regulations with the eu acquis in the field of aviation. The aim of the mission was to assess the status of adoption and implementation of the EU acquis referred to in Annex I of the European Common Aviation Area (ECAA) Agreement, as well as the EU acquis adopted after 2008 and not part of the Annex I of the ECAA Agreement and identifying the specific measures to be undertaken in order to achieve successful transposition and implementation of the ECAA Agreement, as well as to establish the training needs of the Civil Aviation Agency (CAA) employees.

Erasmus Plus Project "Improving aviation through education and regional cooperation"

The project "Improving aviation through education and regional cooperation" is aimed at enhancement of the knowledge and skills of the aviation inspectors and experts of the Civil Aviation Agency of the Republic of Macedonia in line with the European standards applied in the field of aviation through observing and participating in the working activities of the aviation inspectors and experts employed at the Directorate General "Civil Aviation Administration" of the Republic of Bulgaria. The main objectives of this project are: fostering regional cooperation in the field of aviation, filling the skill gaps between the aviation inspectors and experts in the region, enabling professional development of aviation inspectors and experts by providing them with the knowledge and competencies needed for implementation of the EU acquis in the field of aviation, strengthening the capacity of the Civil Aviation Agency of the Republic of Macedonia by raising the quality of the jobs performed by the aviation

inspectors and experts and achieving European internationalization of the civil aviation authorities in the region.

CAA Safety improvements initiatives

Unmanned aircraft

As a part of the safety improvement, CAA has started to regulate the unmanned aircraft in the Macedonian airspace by establishing an effective system of regulations, licencing and oversight. As a part of this project a Regulation on unmanned aircraft and the manner of licencing has been adopted, an interactive map on the CAA's web site has been created and a system for reporting flights where the CAA has a facilitated control and oversight of the everyday flight operations of unmanned aircraft has been established.

Cyber Security

The CAA has started a project on cyber security including a Strategy of cyber security in civil aviation in the Republic of Macedonia, which is a plan for creating a safety framework in accordance with which the functioning, acting and operating of the Agency will be convincing, capable and elastic for meeting the new challenges in the dynamic digital world.

Safety Committee of the CAA

The Safety Committee has been established as a result of the needs for improvement of the direct competence over the safety oversight of the CAA in order to improve the performance based on safety risk assessment. This Committee is composed of members/inspectors of all safety divisions/departments of the CAA and as such it is competent in the part of the support of the State Safety Programme, approval of Training Programs related to the Safety Management System and State Safety Programme for the personnel of the Agency directly involved in SMS oversight of aviation entities, review, development or publishing a legislative framework for national safety and special regulations in accordance with international and national standards, where it is defined that the Republic of Macedonia will monitor them during safety management. In addition, it reviews the incidents and occurrences at the level of CAA and proposes measures and submits analysis to the Director General of the CAA.

2. ANS/ATM environment in the Republic of Macedonia

The main National Stakeholders involved in ATM in Macedonia are the following: Civil Aviation Agency (CAA) – acting as the National Supervisory Authority (NSA), Macedonian Air Navigation Service Provider (M-NAV), Military Authorities and Airport Operators.

2.1. Flight Information Region and Airspace Classes

The following figure shows the lower and upper airspace charts of the Flight Information Region of the Republic of Macedonia. Main difference is that the lower airspace contains the definition of lower routes while upper airspace is defined as the Free route airspace (FRA). Free route airspace is defined from flight level FL 245 up to FL 660.

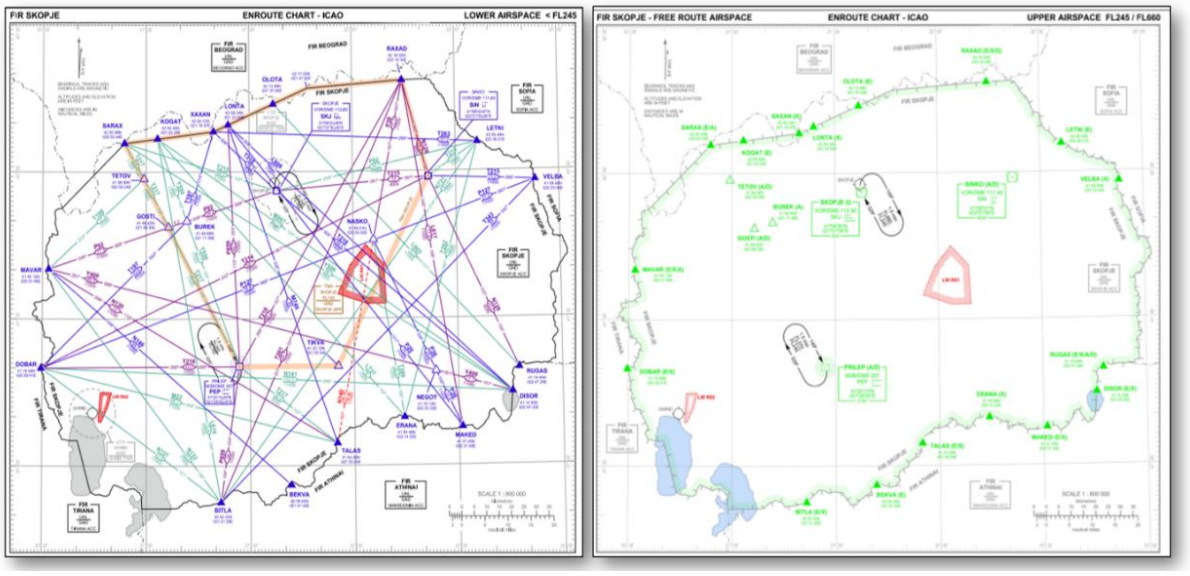


Figure 3 Airspace organisation and ICAO classes

Flight Information Region with vertical limits between Ground until Unlimited is covered from:

- 421840N 0222137E along Macedonian/Bulgarian border, along Macedonian / Greek border, along Macedonian/Albanian border to;
- 415237N 0203537E; and
- combination of segments (broken straight lines) as folows:

- 420549N 0205344E (SARAX);
- 420812N 0211937E (XAXAN);
- 421700N;
- 0214700E;
- 421830N;
- 0221434E (RAXAD); and
- 421840N 0222137E.

Airspace class C is applied to upper airspace (UTA) from FL 245 till 660 and for controlled airspace (CTA) from FL 200 till FL 245 within the lateral limits of Skopje FIR. Airspace class D applied to:

- CTA from FL 105 till FL 200 within the lateral limits of Skopje FIR;
- All ATS routes within Skopje FIR (lower limit 1000ft AGL, upper limit FL200);
- Within the lateral limits of Skopje Terminal Manouvering Area (TMA);
    - Lower limit 1000ft above ground level (AGL) within 20 NM circle centred at Skopje Airport, or 1000ft AGL or 9000ft AMSL outside the circle, whichever is higher o Upper limit FL 145;
- Skopje controlled zone (CTR) within its lateral limits, lower limit ground (GND) upper limit 4000ft above mean sea level (AMSL);
- Ohrid controlled zone (CTR) within its lateral limits, lower limit GND upper limit 4000ft AMSL.

Airspace class E applied to CTA within Skopje FIR lateral limits, with exemption of CTRs, TMA and ATS routes, lower limit 1000ft AGL, upper limit FL105, and within Skopje TMA lower limit GND upper limit 1000 ft within 20 NM circle centred at Skopje airport or 1000ft AGL or 9000ft AMSL outside this circle, whichever is higher.

Airspace class G applied with lateral limits of Skopje FIR with exemption of TMA and CTRs from GND till 1000ft AG.

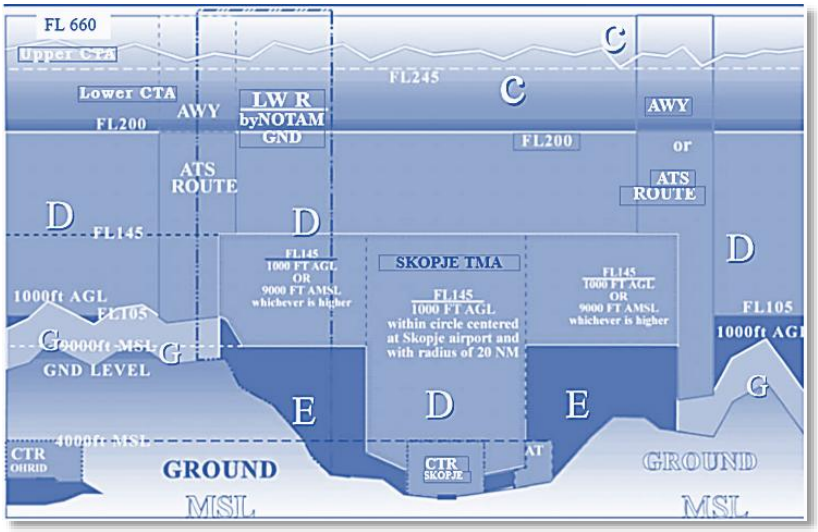


Figure 4 Airspace organisation and ICAO classes

2.2. Air Navigation Service Provider – M-NAV

Within the boundaries of Skopje FIR, M-NAV as a joint-stock company (owned 100% by State) is a single designated air navigation services provider. Table below represents the level of service that M-NAV provides.

Table 2 Services provided in the Republic of Macedonia

Services provided	Comment
ATC en-route	Skopje ACC
ATC Approach	Skopje APP/Ohrid APP
ATC Aerodrome	Skopje TWR/Ohrid TWR
AIS	Two airports and en-route
CNS	Infrastructure owned by M-NAV
MET	Two airports and en-route

The following table presents the level of service provided by MNAV in the airspace of the Republic of Macedonia.

Table 3 Units providing services in the airspace of the Republic of Macedonia

Area	Unit	Vertical Limits	Radio call sign and frequencies	Airspace Classification	Remarks
Flight Information Region Skopje	ACC Skopje	GND/UNL	SKOPJE CONTROL/ RADAR 119,375; 136,425; 369,300**	C* D* E* G*	* see AIP ENR 1.4.2 **Only for non-8.33KHz compliant State Aircraft
Lower Control Area Skopje	ACC Skopje	CTA FL 245/ 1000ft GND	SKOPJE CONTROL/ RADAR 119.375	C D E	
Upper Control Area Skopje/High	ACC Skopje	UTA/H FL 365/FL 245	SKOPJE CONTROL/ RADAR 119.375	C	
Upper Control Area Skopje/Upper	ACC Skopje	UTA/U FL 385/FL 365	SKOPJE CONTROL/ RADAR 120,015	C	
Upper Control Area Skopje/Top	ACC Skopje	UTA/T FL 660/FL 385	SKOPJE CONTROL/ RADAR 136,425	C	
Terminal Control Area Skopje	APP Skopje	TMA FL 145/GND	SKOPJE APPROACH 120,3	D E	

M-NAV is using SELEX ATM system for both Flight Data Processing System (FDPS) and Surveillance Data Processing System (SDPS).

Operational organisation of ATC services and division of sectors is described below (following Table).

Table 4 ATC Units in the Republic of Macedonia

ATC Unit	Number of sectors		FIRs	Remarks
	En-route	TMA		
Skopje ACC/APP	2 (max 4 sectors)	1	Skopje FIR	sectors configuration usually operated in 2016/2017. 3 sector configuration has been operated whenever traffic demands
Ohrid TWR/APP		1	Skopje FIR	

Two sectors configuration encompassed two vertical sectors, divided as follows:

- From GND to 345/365;
- From 345/365 to 660;

Three sectors configuration encompassed three vertical sectors, divided as follows (see figure below):

- From GND to 345/365;
- 345/365-385;
- 385-660.

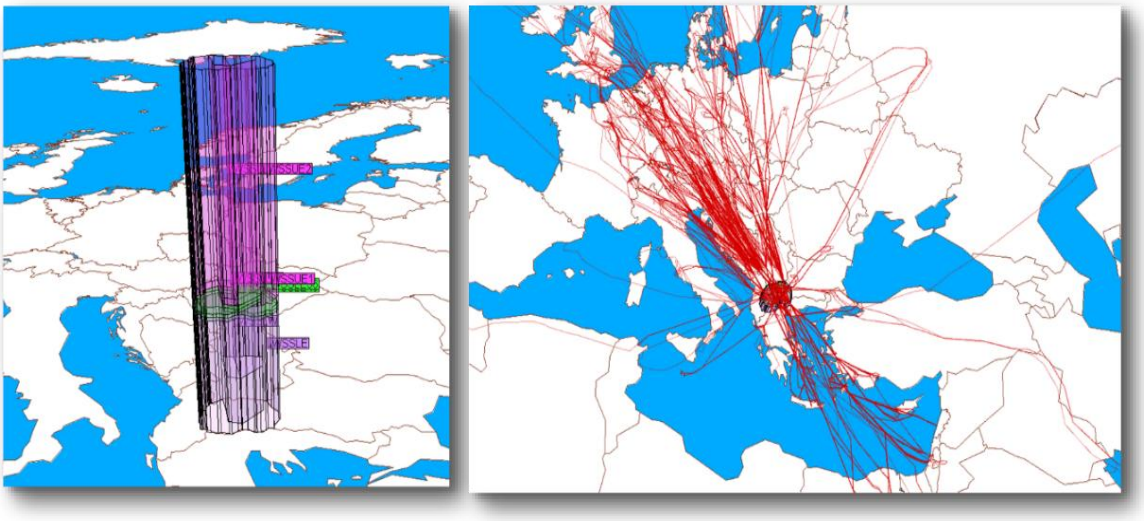
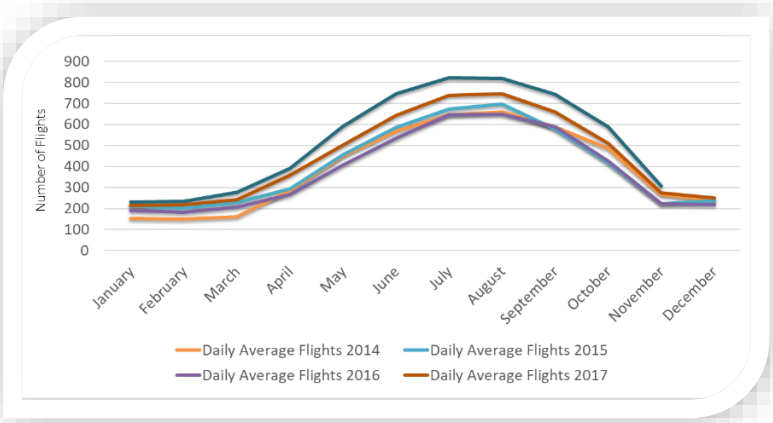


Figure 5 Airspace sectors and main traffic flows

Three-sector configuration is supported by the ATM system and VHF/VCS system.

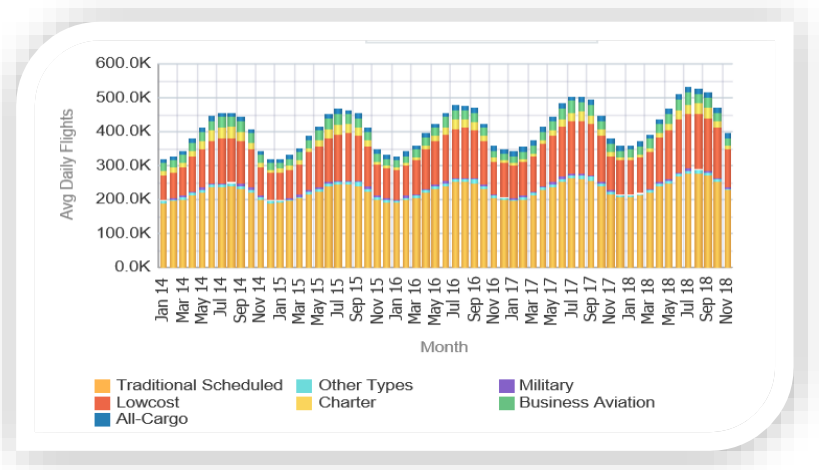
2.3 Traffic statistics and evolution in the Republic of Macedonia

The following graph shows the average daily traffic for Skopje ACC between the 2014 and 2018 (on a monthly level. As it is visible from the graph Skopje FIR traffic is characterised by a high seasonality whereas summer traffic is almost 3.5 times higher that winter traffic. Also, significant traffic growth has to be noted. When comparing winter periods of 2014 and 2018 there is increase of traffic between 50-70%, while the summer traffic grew between 20-30%. This increases and traffic seasonality might have high effect on safety levels, especially in summer months.



Graph 1 Skopje ACC traffic evolution (average daily flights on monthly level)

The following graph shows the evolution of aviation traffic market in the Republic of Macedonia. Traditionally aviation market share in Macedonia covers usual market distribution with highest share of traditional carriers and second highest share of Low-cost carriers. It has to be noted down that Low-cost carriers have the highest annual growth rate in the presented period (2014-2018)



Graph 2 Skopje ACC market share evolution between 2014 and 2018

The following table shows the traffic growth of overflight, internal and arrival/departure traffic. It is visible that around 85% of overall traffic represents overflight traffic while arriving/departing traffic holds around 15% of the overall traffic. Internal traffic helds non-significant number of flights. From the perspective of traffic forecast between 2018 and 2022 it is expected that total number of overflights would increase by around 36% in high scenario, 25% in base scenario and around 15% in low scenario. Arrival departure traffic increase would range between 12% and 51%. Such significant traffic increase understands robust increase of safety levels in order to preserve high safety standards.

Table 5 Traffic forecast for the Republic of Macedonia

		Total Traffic						
Scenario	DAIO	2018	2019	2020	2021	2022	2023	2024
1. High Scenario	AD	19.683	21.383	23.275	24.826	26.503	28.207	29.833
	I	18	23	24	22	23	24	23
	O	173.873	192.354	202.877	211.070	219.158	228.493	237.705
1. High Scenario Total		**193.573**	**213.760**	**226.176**	**235.918**	**245.685**	**256.724**	**267.561**
2. Base Scenario	AD	19.575	20.667	21.694	22.591	23.543	24.484	25.484
	I	17	13	14	12	13	13	12
	O	173.509	189.184	195.186	200.146	204.894	210.523	216.527
2. Base Scenario Total		**193.102**	**209.864**	**216.894**	**222.748**	**228.449**	**235.020**	**242.024**
3. Low Scenario	AD	19.480	20.028	20.363	20.753	21.177	21.571	21.988
	I	17	5	6	4	5	5	4
	O	173.161	185.858	188.111	190.355	192.255	194.938	198.073
3. Low Scenario Total		**192.658**	**205.891**	**208.480**	**211.112**	**213.437**	**216.515**	**220.066**


空港中央
Haneda Airport
出口 B16
次は Next
大井南
Oi-minami
左出口

3. Oversight process in the National Supervisory Authority

This chapter briefly explains the oversight process used by the National Supervisory Authority (NSA) as a part of the Civil Aviation Authority. The NSA has an obligation of verifying compliance and supervising the Air Navigation Service Providers, Training Organisation and in case of interoperability, potentially Manufacturers with the regulatory framework.

3.1. Audit planning process

The oversight process represents the core activity in terms of verifying the compliance of abovementioned stakeholders and it can take place in the form of planned audits, ad-hoc audits and inspections.

Audit planning represents essential mechanism for the NSA in order to ensure that:

- The NSA has adequate human resources necessary to perform the oversight plan;
- The NSA realises its obligation to verify compliance of all stakeholders within all relevant areas with the required frequency (e.g. every two years for safety regulatory requirements);
- The NSA informs and coordinates the stakeholders (at adequate time) about the scope and the objective of the oversight.

Audit planning does not abolish the NSA to conduct ad-hoc oversight activities that can be included if and when applicable.

Responsibility for the application and development/maintenance of the Annual Audit Programme stays with the Head of the NSA, while the initiation of the activities associated with each oversight can be delegated to adequate person.

After the initiation of the development of the Annual Audit Programme, Head of the NSA appoints the Annual Audit Programme Team (AAPT), consisting of ANS Inspectors, who will be in charge of drafting the Annual Audit Programme. The Annual Audit Programme has to cover two-year period. In development of the Annual Audit Programme the following documentation has to be consulted:

- The Annual Audit Programme from the previous year;
- Audit Reports and Corrective Action Plans;
- Occurrence and Investigation Reports;
- Notifications of Planned Changes;

- ANSP Training Plans and Competency Schemes;
- Certificates issued to service/training providers and conditions attached to them.

The Annual Audit Programme has to include detailed specification of the areas to be overseen to cover all the potential safety concern areas, areas whereas problems have been identified through monitoring of safety performance and follow-up areas on corrective actions.

In addition, it has to contain detailed resource requirements for oversight staff for each audit and identify staff outside the NSA if required for the oversights. In respect for each audit or oversight activity, NSA point of responsibility has to be identified and defined together with the audit team and the lead auditor. If the Head of NSA identifies the need for usage of Recognised organisations or any specialist than this activity has to be included in the Annual Audit Plan.

The Annual Audit Programme has to be coordinated with the relevant stakeholders and other organisations (such as other NSAs) and has to be provided for consultation by the November every year. In December after the finalised consultation activity Annual Audit Programme shall be signed-off.

Annual Audit Programme is recognised as a "living document" allowing the updates whenever a need for additional oversights (audits) has been identified, as a result of notified changes or reported safety occurrences.

Attachment II contains the oversight guidelines for preparing the Annual Audit Programme in the specific areas of safety interest for the NSA.

3.2. Audit activity and corrective measures

3.2.1. Audit activity

The objective of the oversight activity is to define the stages to be followed when the NSA plan, perform, report and follow-up on oversights (audits) or Inspections performed in order to determine compliance with regulatory requirements, conditions, audits performed as part of review of changes, etc.

National Supervisory Authority verifies the achievement of regulatory requirements and objectives through initial and/or on-going audit process. Ad-hoc audits or inspections in addition to planned oversights may be initiated where information received suggests that such activity is needed. NSA may in addition use Recognised Organisations, Notified Bodies and expert personnel if being identified.

Within the NSA of the Republic of Macedonia audit preparation, detailed planning, conduct and reporting follows the procedures and practices defined in EUROCONTROL document EAM 1 / GUI 3 'Guidelines for Safety Regulatory Auditing'.

Quality Manager/Function is responsible for auditing the application of this process while the Head of the NSA monitors the need of updating the procedures. In relation to the responsibility, for the initiation of planned and ad-hoc oversight activities and formal announcement, it lies with the Head of the NSA.

Head of NSA may appoint a Point of Responsibility, who will be responsible that the audit is performed according to NSA Standards and Procedures. The actual audit will be managed by an Audit Team Leader.

In terms of Audit initiation stakeholder should be informed 60 days before the start of the audit with a possibility of a short notice at the discretion of the Head of the NSA. Head of the NSA has to appoint the Audit Team Leader and adequate Audit Team at least 30 days before the scheduled audit. The Head of NSA may initiate an ad-hoc or special audit where receive information or other evidence suggests that such action is necessary. For the ad-hoc or special audit, time for notification, planning and preparation may be shortened and in some cases, no announcement could be given in advance.

Audit team leader has to produce detailed Audit Plan that has to include audit visit schedule, identifying date(s) of the visit, auditors in the team and areas/departments/processes to be audited during the visit as well as the regulatory areas to be covered. Audit Plan has to be coordinated with the relevant stakeholder (i.e. service provider). Each individual auditor has to prepare their individual tasks ensuring efficient conduct of oversight activity (e.g. check lists, questionnaires, acceptable means of compliance, documentary evidence to be provided, etc).

In the Republic of Macedonia, the NSA performs an audit in alignment with the Guidance in respect to verify compliance with regulatory requirements (e.g. Common Requirements and Safety Regulatory Requirements) that can be found in the European Commission, EASA and EUROCONTROL documents.

Audit performance covers the following activities:

- Document review performed by the Audit Team Leader and Audit Team;
- Audit briefing performed by the Audit team Leader with the aim of presenting the audit background, audit purpose and any specific issues that will be addressed by the audit team.
- Audit conduct where each of the Audit Team members perform the audit through the techniques and methods found appropriate (document review, interviews, etc.).

- Audit debriefing performed by the Audit Team Leader and Audit team, whereas management of the unit or section is informed on outcome of the audit, especially in respect to the non-conformities identified and areas.

Audit report is being developed under the responsibility of the Audit team Leader, with inputs coming from each individual auditor and shall be submitted to the Head of the NSA no later than 14 days after the end of the audit. The Head of NSA or the appointed responsible person shall communicate audit findings to stakeholder senior management (Service Provider or other organisation audited) within 21 days of completion of the audit. Audited stakeholder has 28 days after completion of the audit to define the corrective measures that should address the findings identified.

Audit follow up defines that the Head of the NSA or responsible person assess the corrective measures proposed by the audited stakeholder within 14 days of their submission. The assessment and notification on the acceptance (including timetable for closing the finding) of corrective measures has to be performed. Audited stakeholder is also informed about the timetable for completion of subsequent follow-up audits or inspections.

An Oversight Audit Log is maintained by the NSA showing in respect of each audit conducted, and it contains the following items: nonconformities, corrective actions, target dates for their implementation and completion of follow-up actions. At the end of the process Audit File is being developed with the following documents produced: Official correspondence with the audited Service Provider,Audit Plan, Audit Finding Forms, Collected Evidence, Audit report, Corrective action plan and associated timetable.

Annually, the Head of the NSA organises a review of all audit reports, with an aim of amending the Annual Audit Programme to propose the possible improvements.

3.2.2. Inspections

Within the NSA Inspections are initiated in response to information concerning the Service Providers compliance with regulatory requirements or unsafe practices which need immediately attention or where the verification of compliance should be performed unannounced. It is up to the Head of the NSA to decide to initiate an Inspection and whether to notify the stakeholder of the Inspection. In relation to specific notification of the relevant stakeholder, there is no specific requirement to the period prior to the Inspection for which a notification has be given or even that a notification shall be given.

An Inspection has to be planned and performed as audits (following the procedures described above, i.e. the inspector prepares a Compliance Check List to be used and performs a briefing and a debriefing.

Both audit and inspection processes are described as a part of the CAA procedures.

Attachment III below provides the list of CAA procedures applicable to date.

3.3. National Supervisory Authority safety oversight activities 2016-2017

The National Supervisory Authority provides initial and ongoing oversight to assess the compliance of ANSP with the applicable international and national regulatory requirements.

Human Resources – existing levels of resources

Taking into account current human resource, i.e. existing levels of resources, in the National Supervisory Authority there are four NSA inspectors that are being utilised together with three inspectors used under the umbrella of the Civil Aviation Authority. Overall number of inspectors being utilised in performing oversight of ATM/ANS counts seven inspectors.

The National Supervisory Authority of the Republic of Macedonia in 2016 and 2017 performed safety oversight with the support of the Civil Aviation Authorities of the Republic of Croatia and Republic of Serbia ((CNS/Safety, MET/Safety, Carto/Proc), Croatia 2016 (CNS/Safety, ATS/Safety, MET/Safety), Serbia 2016 (Carto/Proc), Croatia 2017 (CNS/Safety, Safety, FIN, MET/Safety)).

Certification of the Air Navigation Service Provider

In 2016 the National Supervisory Authority performed re-certification of the Air Navigation Service Provider (M-NAV).

Review of safety arguments regarding ATM/ANS Systems

Safety oversight of new ATM/ANS systems and changes to the existing systems was conducted by the National Supervisory Authority. Safety oversight incorporates the review of safety analysis provided by ANSPs. In 2016 a total number of 4 changes (major and minor) were notified to the NSA (new VHF system, new VCS system, upgrade SADIS hardwere/softwer, LOA BG and Tirana). In 2017 one change was notified and followed (new UPS system).

Safety issues identified through the safety oversight processes in 2016 and 2017

During the 2016 the NSA performed 27 on-site inspections (scheduled, follow-up and non-scheduled) covering all services and functions of the certified ANSP during which 35 non-conformities were raised against the applicable regulatory framework while 28 non-conformities were closed in 2016.

During the 2017 the NSA performed 15 on-site inspections covering all services and functions of the certified ANSP during which 10 non-conformities were raised against the applicable regulatory framework while 10 non-conformities were closed in 2016.

Safety recommendations

During 2016 and 2017 no safety recommendations were raised.

The following table shows the level of NSA safety oversight activities conducted in 2016 and 2017.

Table 6 NSA safety oversight activities in 2016 and 2017

Description	2016	2017
Recertification/certification of industry entities	1 M-NAV	-
Number of inspections (scheduled, follow-up and non-scheduled) for the stated years	27 (total)	15 (total)
Number of open and closed remarks/findings	35 (closed 28)	10 (closed 10)
Have any changes of the existing systems which are subject to our oversight been submitted to the CAA in the stated years? (Number of changes, big/small)	4	1
Have qualified entities been used for carrying out inspections/oversight required by us (when, where and for what purpose)	(CNS/Safety, MET/Safety, Carto/Proc),Croatia 2016 (CNS/Safety, ATS/Safety, MET/Safety),Serbia 2016 (Carto/Proc),	Croatia(CNS/Safety, Safety, FIN, MET/Safety),
Issued safety recommendations	---	---

Attachment IV provides the safety oversight activities data for all Civil Aviation Authority departments for the years 2016 and 2017.

4. Occurrence Reporting in the Republic of Macedonia

Regulatory framework established by the EASA Basic Regulation (EU No 2018/1139) and Regulation on reporting, analysis and follow-up of occurrences in civil aviation (EU No 376/2014) define occurrence reporting as one of the safety tools that enables the management of safety for aviation organisations and states overall.

Regulation (EU) 2018/1139 contains specific reporting requirements placed in the Implementing Rules for the domain of:

- Commission Regulation (EU) No 748/2012 for design and production;
- Part 145 and Part M maintenance/continuing airworthiness;
- Aircrew;
- ATM/ANS;
- Air operations;
- Aerodromes.

Regulation (EU) No 376/2014, applicable since 15 November 2015, complements the EU Occurrence Reporting framework and further develops the standards for reporting, collecting, storing, protecting and disseminating the relevant safety information.

The objectives of occurrence reporting are to:

- prevent accidents through reporting, analysis and follow-up of relevant safety information at industry, national and EU level
- increase information exchange between aviation stakeholders by mean of the European Central Repository
- ensure continued availability of safety information by enhancing Just Culture

Occurrence Reporting Regulation (EU No 376/2014) is complemented by the Commission Implementing Regulation (EU No 2015/1018) laying down a list classifying occurrences in civil aviation to be mandatorily reported.

The following figure describes the data reporting flow implied by the Occurrence Reporting framework.

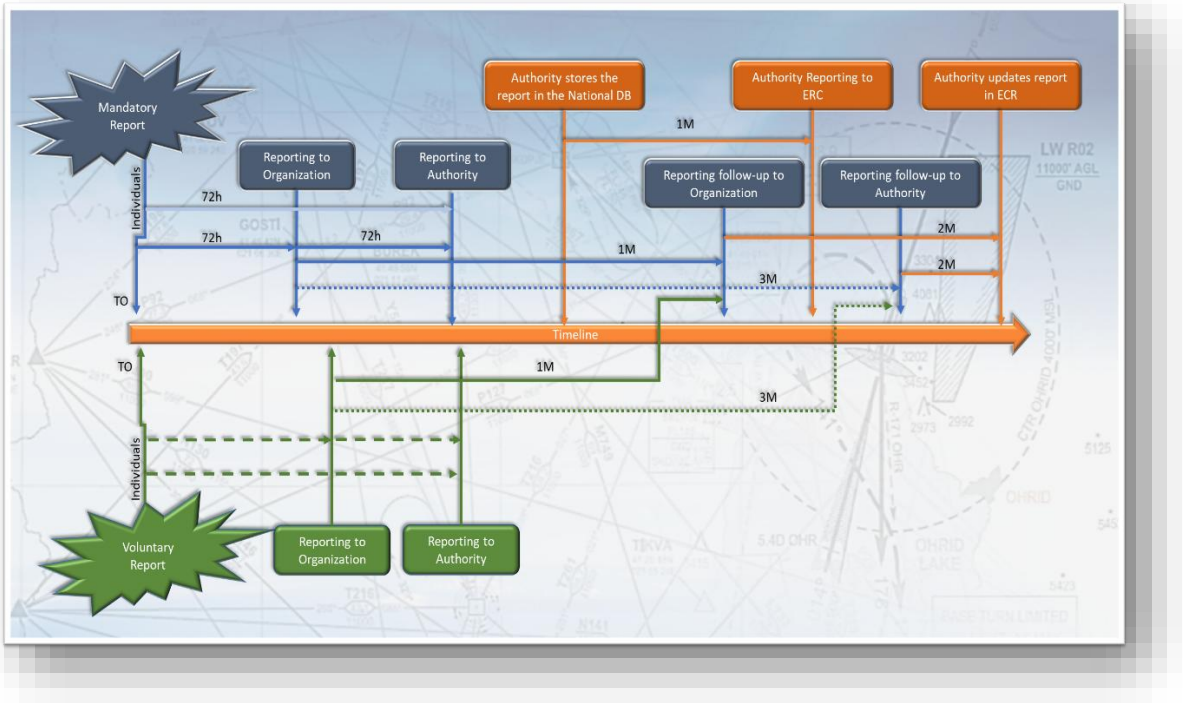


Figure 6 Flow of information under Regulation 376/2014

Reporting flow starts from the moment the occurrence is detected (T0). From this moment, the individual shall report it to the organisation or to the authority as soon as possible, but before 72 hours if it falls within the mandatory scheme. In this case, the organisation has 72 hours to report to the authority from the moment they become aware of the occurrence. It should be understood that in certain specific situations the identification of the occurrence might require an additional stage before this reporting flow starts. In particular, for Design or Production Organisations the time start (T0) is the moment where the individuals carrying out this process in the organisation identify the unsafe or the potential unsafe condition. Therefore, these organisations will have 72 hours to report to the competent authority when this process concludes that an occurrence represents an unsafe or potential unsafe condition as per Annex Part 21 of Regulation 748/2012.

In cases where an organisation learns about an occurrence through its automatic data capturing systems (e.g. FDM) and if it has requested a retrospective report to be made, the 72 hours starts when it receives the retrospective report from the reporter.

The orange boxes and lines in the diagram below illustrate the obligation of the competent authority in terms of reporting flow. From the day of the reception of the initial report, it has 30 days to integrate this report in the European Central Repository (ECR). In the case of follow-up, it has two months to send updated information to the ECR. These workflow and timeline are applicable to occurrences receive both in the context of organisations' mandatory and voluntary reporting schemes.

Regulation 376/2014 establishes two different systems, the mandatory one and the voluntary one, in order to clarify reporting obligations for reporters and for organisations.

Occurrences which may represent a significant risk to aviation safety and which fall into the following categories shall be reported by the responsible persons (defined in the occurrence reporting regulation) through the mandatory occurrence reporting systems:

(a) occurrences related to the operation of the aircraft, such as:
    I. collision-related occurrences;
    II. take-off and landing-related occurrences;
    III. fuel-related occurrences;
    IV. in-flight occurrences;
    V. communication-related occurrences;
    VI. occurrences related to injury, emergencies and other critical situations;
    VII. crew incapacitation and other crew-related occurrences;
    VIII. meteorological conditions or security-related occurrences;
(b) occurrences related to technical conditions, maintenance and repair of aircraft, such as:
    I. structural defects;
    II. system malfunctions;
    III. maintenance and repair problems;
    IV. propulsion problems (including engines, propellers and rotor systems) and auxiliary power unit problems;
(c) occurrences related to air navigation services and facilities, such as:
    I. collisions, near collisions or potential for collisions;
    II. specific occurrences of air traffic management and air navigation services (ATM/ANS);

III. ATM/ANS operational occurrences;

(d) occurrences related to aerodromes and ground services, such as:

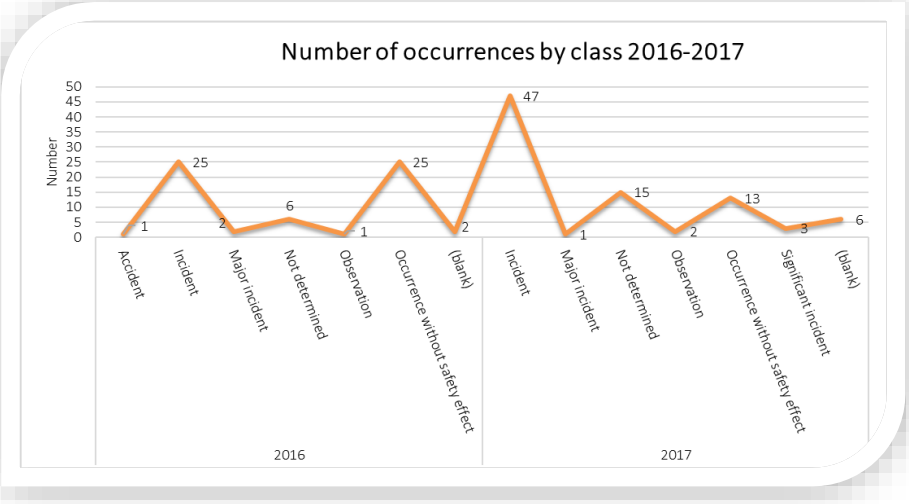
I. occurrences related to aerodrome activities and facilities;

II. occurrences related to handling of passengers, baggage, mail and cargo;

III. occurrences related to aircraft ground handling and related services.

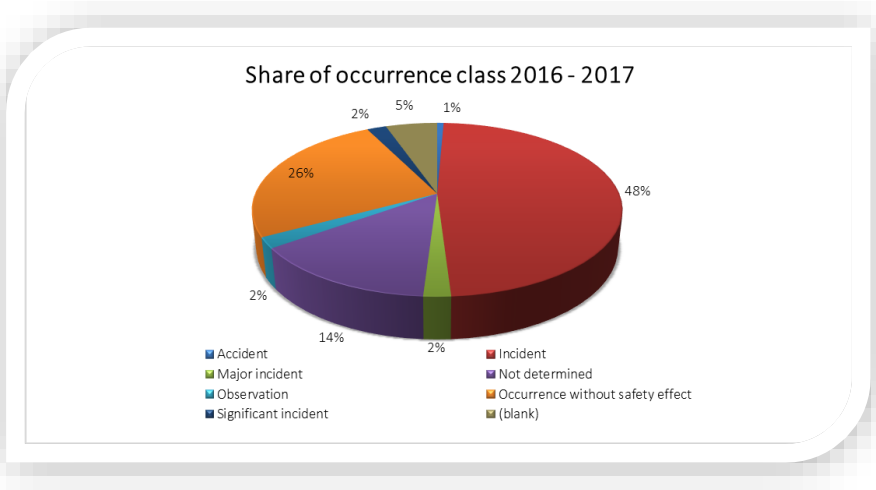
The Republic of Macedonia is actively participating in the occurrence reporting system. The following data for 2016 and 2017 has been extracted from European Co-ordination Centre for Accident and Incident Reporting Systems (ECCAIRS) database.

The following graph shows the total number of occurrences foe 2016 and 2017 by occurrence class. It should be noted the increase in the number of reported occurrences increased by 20% in 2016 when compared to 2017. The reporting levels are increasing and with this expected safety levels.



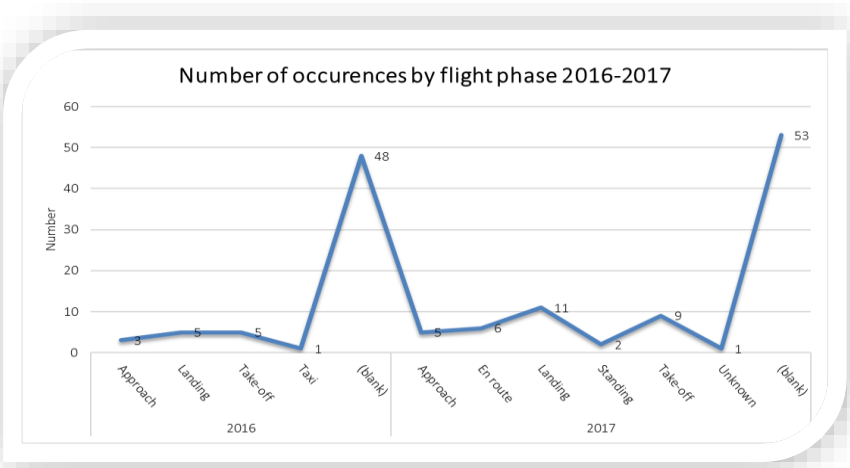
Graph 3 Number of reported occurrences by class (2016-2017)

From the following graph it is visible that majority of occurrences are classified as an Incident (around 48 percent) while second most represented class is occurrence without the safety effect (around 26 percent).



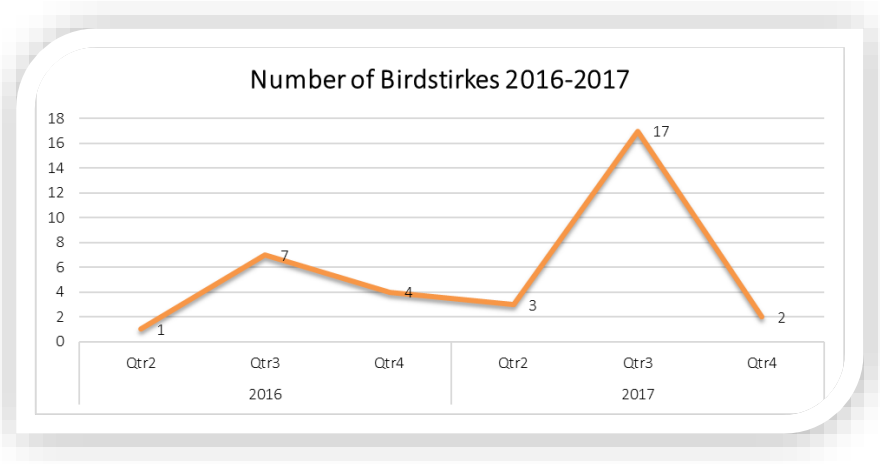
Graph 4 Share of reported occurrences by class (2016-2017)

The following graph shows the occurrence reported by the flight segment for both 2016 and 2017. It is obvious that most occurrences occurred during take off and landing phases.



Graph 5 Number of reported occurrences by flight phase (2016-2017)

The following graph shows number of Birdstrike incidents for 2016 and 2017. It is obvious that in 2017 there is an increase in the numbers of Birdstrikes reported.



Graph 6 Number of reported Birdstirkes 2016-2017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Attachment I – Safety Regulatory Framework

Safety Regulatory Framework in the Republic of Macedonia

OPS	AIR	NAV	AED	PEL
2.1Regulation on entities, conditions and method of launching of anti-hail rockets ("Official Gazette of RM", No. 39/12); 2.2Regulation on Rules of the Air "Official Gazette of RM", No. 26/18); 2.3Regulation on the manner and rules for flying with Sailplanes ("Official Gazette of RM", No. 162/12); 2.4Regulation on Parachuting ("Official Gazette of RM", No. 153/13); 2.5Regulation on principles governing the accident, serious incidents, incident and occurrences investigation of civil and state aircraft, as well as their reporting ("Official Gazette of RM", No. 137/10); 2.6Regulation on the rules for establishment of a list of air carriers subject to an operating ban ("Official Gazette of RM", No. 152/10); 2.8Regulation on criteria and procedure for approving the lease agreements of an aircraft. ("Official Gazette of RM", No. 62/13); 2.9Regulation for conditions under which unmanned aircraft can fly into Macedonian Airspace ("Official Gazette of RM", No. 187/17, 152/18); 2.10Regulation on specialized services of aircraft operations (Aerial Work) and special requirements in respect of aircraft, aircraft equipment and other special requirements necessary for safe and regular operation, ("Official Gazette of RM", No. 159/07; 122/13; 121/15; 68/18); 2.12Regulation on method of transport for own use (Corporate Aviation) and special requirements in respect of required aircraft, equipment and other special requirements necessary for safe and regular operation, ("Official Gazette of RM", No. 90/2009; 49/2011; 159/2011; 122/13); 2.13Regulation on manner and rules for flying with wings for free flying ("Official Gazette of RM", No. 217/16); 2.14Regulation on the manner and rules for flying with balloons ("Official Gazette of RM", No. 134/08); 2.15Regulation on the requirements and manner for organizing air shows ("Official Gazette of RM", No. 87/12; 169/16);	4.1Regulation on specific requirements for design, construction and modifications of aircraft, engine, propeller and equipment, technical control of construction and development of technical and technological documentation, type certification, procedures and method for determination of aircraft airworthiness, as well as form, content, record and procedure for issuing, renewal, reissuing and modification of the production certificate, type certificate, airworthiness certificate, noise certificate and gas emissions certificate. ("Official Gazette of RM", No. 141/17, 75/18) 4.2Regulation on method and place of marking of the aircraft, registered in Republic of Macedonia with aircraft nationality marks, registration marks and other marks, ("Official Gazette of RM", No. 13/2015, 21/2018); 4.3Regulation for specific requirements for manufacturing and maintenance of parachutes ("Official Gazette of RM", No. 153/2013, 110/18); 4.4Regulation on maximum noise and gas emissions allowed during take-off, flight and landing of aircraft("Official Gazette of RM", No. 119/2010);	6.1 Regulation on procedure, rules and special requirements for inspection and special requirements to be met by a person to carry out inspection of provision of air navigation services, ("Official Gazette of RM", No. 82/12) 6.2Regulation on method of provision of Air Navigation Services and special requirements in respect of required staff, equipment and other special requirements necessary for safe and regular work ("Official Gazette of RM", No. 8/2018) 6.6Regulation on duration of uninterrupted working time, duration of shifts and day rest of air traffic controller and assistant air traffic controller, ("Official Gazette of RM", No. 23/09; 94/2014); 6.7Regulation on procedures and minimum requirements for safe take off and landing of airplanes ("Official Gazette of RM", No. 191/15); 6.8 Regulation on the organization and use of the airspace ("Official Gazette of RM", No. 63/2011); 6.8A Regulation on the organization and use of the airspace ("Official Gazette of RM", No. 9/2018); (Valid from 1 March 2019) 6.9Regulation on rules and requirements in respect of systems interoperability, their components and related procedures for provision of air navigation	5.2Regulation on special requirements for design and planning, construction and reconstruction of an airport, ("Official Gazette of RM", No. 143/09; 156/12); 5.3Regulation on method for use, maintenance and control of an airport maneuvering areas, aprons, objects, installations, devices and equipment ("Official Gazette of RM", No. 191/15; 172/16); 5.4Regulation on procedure for marking of maneuvering areas, aprons and other areas of an airport or airfield, ("Official Gazette of RM", No. 151/07; 96/10; 148/12); 5.5Regulation on requirements for installation, construction and marking of objects, installations and facilities within an aerodrome area (zone), including the air traffic control objects and facilities as well as the objects outside an aerodrome zone, which may affect to aviation safety and requirements and procedures for cultivation of the land within an aerodrome zone and lands in the vicinity thereof, ("Official Gazette of RM", No. 130/07; 156/12; 149/15); 5.6Regulation on format, contents and procedures for record keeping of an Aerodrome and Airfield Register and Evidence on Terrain (landing strips),("Official Gazette of RM", No. 151/07; 196/18); 5.7Regulation on airport ground handling services for aircraft, passengers, baggage, freight and mail and services for fuel and oil supply to aircraft("Official Gazette of RM", No. 67/12; 148/12);	3.1Regulation on training, examination, licensing and ratings of airplane pilots,("Official Gazette of RM", No. 44/08; 39/09; 54/10; 113/12; 186/18); 3.2Regulation on training, examination, licensing and ratings of air traffic control personnel,("Official Gazette of RM", No. 129/17, 89/18, 177/18); (Valid from 1 January 2019) 3.2ARegulation on training, examination, licensing and ratings of air traffic control personnel,("Official Gazette of RM", No. 86/10; 60/13; 27/15, 65/15; 54/17); 3.3Regulation on training, examination, licensing and ratings of aviation technical personnel,("Official Gazette of RM", No. 139/14); 3.4Regulation on training, examination and licensing and ratings of CNS technical personnel,("Official Gazette of RM", No. 73/09, 139/18); 3.5Regulation on training, examination, licensing and ratings of helicopter pilots,("Official Gazette of RM", No. 121/09); 3.6Regulation on training, examination, licensing and ratings of flight engineers,("Official Gazette of RM", No. 99/10); 3.7Regulation on Requirements, Method and Procedure for establishment of medical fitness of aviation and other qualified personnel, Period of validity of medical certificates and Special requirements to be met by Aeromedical Centres and Authorized Medical Examiner to carry out medical examinations of the aviation and other qualified personnel,("Official Gazette of RM", No. 49/08; 87/11; 169/13); 3.8Regulation on form, content, record-keeping and procedure for issuing, renewal, extension and change of a Certificate for conducting medical checks of the aviation and/or other qualified personnel, ("Official Gazette of RM", No. 67/12);

2.16Regulation on the manner and rules of modeling, ("Official Gazette of RM", No. 134/08); 2.17Regulation on the specific requirements, manner and rules for organization of sport competitions,("Official Gazette of RM", No. 161/13; 169/16); 2.18Regulation on procedure, rules and special requirements for inspection on aerial work and sports flights, as well as special requirements to be met by a person to carry out inspection ("Official Gazette of RM", No. 41/2017); 2.19Regulation on form, content, record-keeping and procedure for issuing, renewal, extension and change of a Corporate Air Operator Certificate, ("Official Gazette of RM", No. 80/13); 2.20Regulation on form, content, record-keeping and procedure for issuing, renewal, extension and change of an Aerial Work Air Operator Certificate, ("Official Gazette of RM", No. 51/13); 2.21Regulation on organization of working time, flight time and duration of the rest time of flight crew members, "Official Gazette of RM", No. 13/2015); 2.22Regulation on procedure, rules and special requirements for inspection of the protection of passenger rights in aviation and special requirements to be met by a person to carry out inspection, "Official Gazette of RM", No. 215/16); 2.23Regulation on method, organization and entities for Aircraft Search and Rescue, "Official Gazette of RM", No. 36/13); 2.24Regulation on method of public air transport and special requirements in respect of required staff, aircraft, equipment and other special requirements necessary for safe and regular operation,("Official Gazette of RM", No. 134/10; 113/13; 92/16); 2.25Regulation on form, content, record-keeping and procedure for issuing, renewal, extension and change of an Operating License and Air Operator Certificate, "Official Gazette of RM", No. 87/12); 2.26Regulation on Procedure and Rules for Operation of Ultralight Aircraft and Powered hang gliders and paragliders, "Official Gazette of RM", No. 106/07; 170/16); 2.27 Regulation on procedure, rules and special requirements for inspection and special requirements to be met by a person to carry out inspection regarding the public air transport ("Official Gazette of RM", No. 8/2014, 16/2017); 2.28Regulation on the manner and procedure on returning and forced landing of aircraft approaching or flying through an area of restricted, conditionally restricted or dangerous zone ("Official Gazette of RM", No. 8/2012); 2.29Regulation on manner and conditions on launching rockets and other flying objects for scientific, sports and other purposes that could endanger flight safety ("Official Gazette of RM", No. 134/08);	4.5Regulation on construction, airworthiness and maintenance of wings for free flying ("Official Gazette of RM", No. 217/2016); 4.7Regulation on the form, content and the manner of keeping records in the Aircraft Register, and data which should be sent to the Central Registry of the Republic of Macedonia, ("Official Gazette of RM", No. 20/2011); 4.8Regulation on the form, content, record keeping and the procedure for issuing and modification of the Certificate of Registration ("Official Gazette of RM", No. 24/2011; 77/2014); 4.9Regulation on the manner of keeping data of the aircraft which are not under ICAO standards and amateur constructed aircraft ("Official Gazette of RM", No. 47/2012; 52/2014); 4.10 Regulation on maintenance methodology and maintenance technical control of aircraft, aircraft engine, propeller, parachute and equipment, development of technical and technological documentation regarding the maintenance and special requirements in respect of required staff, equipment and other special requirements necessary for safe and regular operation, as well as form, content, record and procedure for issuing, renewal, reissuing and modification of the maintenance certificate ("Official Gazette of RM", No. 139/17, 75/18); 4.11Regulation on requirements and control of construction and procedures for determination of ultralight and powered hang gliders and paragliders airworthiness, ("Official Gazette of RM", No. 159/2007; 13/2015);	services with the European ATM network ("Official Gazette of RM", No. 6/2018); 6.11 Regulation on form, content and procedure for issuing, renewal, extension and change of a Certificate of competency for provision of Air Navigation Services, ("Official Gazette of RM", No. 21/12); 6.12Decision for Designation of Air Navigation Services Provider ("Official Gazette of RM", No. 59/2012); 6.13 Regulation on method of installation, maintenance and protection of technical facilities, devices, equipment and objects for provision of Air Navigation Services ("Official Gazette of RM", No. 165/2012);	5.8Regulation on airport firefighting services, ("Official Gazette of RM", No. 134/10); 5.9Regulation on airport medical services, ("Official Gazette of RM", No. 134/10); 5.10Regulation on aviation safety requirements in respect of use of terrain and procedure and requirements for airfield maintenance, ("Official Gazette of RM", No. 151/07; 196/18); 5.11National Program for Aviation Facilitation ("Official Gazette of RM", No. 163/2018); 5.20Regulation on format, contents, record-keeping and granting, renewal, revalidation, change and transfer of a certificate of compliance with requirements for safe use of an airport or airfield, ("Official Gazette of RM", No. 127/2014); 5.23Regulation on procedure, rules and special requirements for inspection of airports, airfield and terrains and provision of airport services and special requirements to be met by a person to carry out inspection, ("Official Gazette of RM", No. 163/13, 215/16); 5.28Regulation on rules for allocation of slots ("Official Gazette of RM", No. 121/10; 125/10);	3.9Regulation on Form, Content, record-keeping and procedure for issuance and revocation of Aviation Inspector Official Identity Card, ("Official Gazette of RM", No. 153/13) 3.10 Regulation on training, checks and certification of proficiency of cabin crew ("Official Gazette of RM", No.150/12); 3.1 Regulation on qualification, examination and licensing of flight crew members (Applicable only to Flight Navigators) ("Official Gazette of SFRY", No. 2/80, 31/80, 53/80, 43/81 and 10/85); ("Official Gazette of RM", No. 34/95, 45/99, 27/01, 35/01, 16/05, 06/06, 129/08, 121/09, 99/10, 108/12); 3.12Regulation on training, examination, licensing and ratings of Flight Dispatcher ("Official Gazette of RM", No.161/11, 108/12, 09/2016); 3.13Regulation on the form, content and the manner of keeping records in the registry for aviation personnel and other qualified personnel ("Official Gazette of RM", No.179/2011; 90/16); 3.14Regulation on training, examination, licensing and ratings of Balloon Pilots ("Official Gazette of RM", No.38/2012); 3.15Regulation on training of other qualified personnel ("Official Gazette of RM", No. 60/13; 123/15; 155/16); 3.16Regulation on training, examination, licensing and ratings of Glider Pilots ("Official Gazette of RM", No. 108/12; 118/13; 131/17); 3.17Regulation on training, examination, licensing and ratings of Parachutes personal ("Official Gazette of RM", No. 172/13); 3.18Regulation on training, examination, licensing and ratings of aviation meteorological personnel ("Official Gazette of RM", No. 14/11); 3.19Regulation on Regulation on training, examination, licensing and ratings of pilots on wings for free flying"Official Gazette of RM", No.93/17); 3.20Regulation on criteria for authorization of examiners of aviation experts list("Official Gazette of RM", No. 44/07; 45/09); 3.21Regulation on training, examination, and certification of proficiency of personnel charged with duties to prepare and provide aviation information, charts, publications and flight procedures. ("Official Gazette of RM", No. 85/07; 54/17);

	4.12 Regulation on procedure, rules and special requirements for inspection and special requirements to be met by a person to carry out inspection regarding the aircraft, their, production, maintenance and airworthiness ("Official Gazette of RM", No. 54/2008);			3.22Regulation on training, examination, and Licensing and Ratings of Pilots of Ultralight Aircraft (Microlight) and Powered Hang gliders and Paragliders ("Official Gazette of RM", No. 106/07, 112/12; 170/16); 3.23Regulation on training, examination and certification of personnel charged with duties of traffic flow ("Official Gazette of RM", No. 12/08); 3.24Regulation on procedure, rules and special requirements for inspection of aviation personnel and other qualified personnel training and special requirements to be met by a person to carry out inspection,("Official Gazette of RM", No. 215/16);

Attachment II – Annual Planning Guidelines

The following guidelines shall be followed when preparing the Annual Audit Programme.

Oversight of Common Requirements

When preparing the Annual Audit Programme, the NSA shall ensure that:

- Each ANS provider operating under the jurisdiction of the NSA is addressed in the programme.
- Each type of ATM services provided by those service provider organisations. Consequently, the audits must target all the different services (ATS (e.g. area control, approach control, aerodrome control, AFIS, ASM, AFTM, etc.), AIS, MET and CNS).
- Each Certified Training Institutes under the jurisdiction of the NSA, i.e. where the NSA has issued a certificate.
- Each Recognised Organisation under the jurisdiction of the NSA, i.e. where the NSA has issued the recognition.
- Where the certification process or the regular oversight has defined corrective actions to be implemented by the ANSP, the Annual Programme may include the audits to verify closure of the actions.

Oversight of Interoperability

The NSA shall supervise the compliance with the Interoperability Regulation. However, in most cases the supervision will be managed associated with the introduction of new or changed ATM Systems. The oversights could therefore be mainly focus on, e.g.:

- The transition arrangements stipulated in national regulations.
- Compliance with the requirement to notify the NSA of changes affecting the declarations issued.
- Requirements associated with Implementing Rules, Communication Specifications, etc, which relates to day-to-day operations.

Therefore, the NSA shall ensure that the audits cover:

- The correct application of the procedure for notification of changes to the NSA in respect to Interoperability.
- Verification of the compliance with specific requirements, safety requirements, safety conditions associated with Implementing Rules, Community Specifications, etc.
- Each Notified Body under the jurisdiction of the NSA, i.e. where the NSA has issued the recognition.

Oversight related to Airspace

The NSA shall oversee any such part of a Functional Airspace Block falling under the NSAs area of responsibility, either representing the State as the Supervisory Authority or under special agreement between the States involved in respect to the roles and responsibilities of the NSAs. As such, the oversight responsibilities, beyond what is already governed by the SES regulation, will be specified in the said agreements.

In addition, the NSA shall supervise the implementation of the Flexible Use of Airspace in particular the compliance with the requirements established by ICAO and EUROCONTROL in respect hereof.

Oversight of Software Safety Assurance System (Regulation 482)

As specified in CAA MK Regulation on method of installation, maintenance and protection of technical facilities, devices, equipment and objects for provision of Air Navigation Services Official Gazette of RM No. 165/2012, Article 6, the Software Safety Assurance System shall be considered part of the Safety Management System (SMS) of the ANSP. As such the verification of compliance with Regulation No 482/2008 establishing a software safety assurance system to be implemented by air navigation service providers and amending Annex II to Regulation (EC) No 2096/2005 should be part of the process for NSA acceptance of the SMS.

Equally, the continuous oversight of the Software Safety Assurance System should be part of the continuous oversight associated with Regulation (EC) No 2096/2005 and the ANSP's SMS (note, the requirements should be verified every 2 years).

In so far that the implementation of Regulation 14/2009 is immature in many ANSPs, the NSA could include in the oversight planning oversights to monitor progress in the implementation and especially in the implementation of in Annex I and II of Regulation 549/2004 in line with a Corrective Action Plan defined by the ANSP.

In order to define means of compliance, or to guide NSA staff for defining minimum acceptance means of compliance as a preparation for an audit, the following document could be used: The European Organisation for Civil Aviation Equipment (EUROCAE), Guidelines for ANS Software Safety Assurance.

Oversight of the Occurrence Reporting Processes of the ANS Provider(s)

The NSA shall audit the ANS Provider organisation(s) to ensure that:

- A formal means exists for systematic and consistent reporting of safety occurrences by any person.
- Each occurrence is uniquely identified, all relevant data is collected, secured, recorded and stored in a manner which ensures their quality and confidentiality.
- Formal means of safety occurrence investigation and assessment by personnel with the necessary expertise exists.
- There is a process:
    - For the immediate investigation of occurrences considered to have significant implications for flight safety and/or the ability to provide safe air navigation services;
    - To take any necessary remedial action.
- The severity of each occurrence is determined, the risk classified, and the results recorded.
- Objective analysis of occurrences to identify how the ANS system contributed or could have contributed to reduce the risk exists and that the results recorded.
- Means by which safety recommendations, interventions and corrective actions are developed, recorded where necessary, and their implementation monitored.

Oversight of Training Providers

- The Annual Oversight Plan shall include oversights to verify that unit training is performed according to “approved” training plans and that the competency is maintained according to “approved” competency schemes i.e. that UTPs and UCSs for air traffic controllers are written and effective;
- Responsible person of ANS Oversight shall ensure all requirements applicable to training are audited every two (2) years.

Oversight – Engineering & Technical Personnel

Through the Oversight Planning, the Head of NSA or his designated representative shall assess:

- The adequacy of the training plans of the ANS Provider’s engineering and technical personnel undertaking operational safety related tasks;
- That the Training Plans for engineering and technical personnel undertaking operational safety related tasks are implemented and are effective;
- That the ANS Provider complies with Safety Rules for such staff issued by the CAA;
- Whether the ANS Provider has appropriate procedures to ensure that any third party personnel undertaking operational safety related tasks meet applicable requirements.

Oversight of ANS Provider(s)' Processes to Ensure the Competence of Controllers & ANS Technical Personnel

The Head of NSA shall, through the Annual Audit Programme confirm that the ANS Provider(s) procedures ensure:

- All air traffic controllers assigned to an operational position:
  - hold a current medical certificate;
  - are competent to provide the ATC services notified in his/her licence; and
  - in cases where the Head of NSA has suspended, or varied an Air Traffic Controller licence and/or associated ratings and/or endorsements that the holder of that licence is not so assigned without appropriate supervision;
- Controllers are monitored for psychoactive substance abuse and advice is provided to controllers taking medicines;
- The holder is prevented from exercising the privileges of a licence or certificate of competence when there is any decrease in the medical fitness of the holder, or when the holder is under the influence of any psychoactive substance which might render the holder unable to safely and properly exercise these privileges;
- The Nead of NSA is notified by the ANS provider at a unit when:
  - an air traffic controllers' competence is in doubt, or
  - an air traffic controller is no longer judged competent to provide the ATC service associated with a valid rating; or
  - an air traffic controller or student air traffic controller has been assessed as medically unfit to provide an ATC service;
  - an OJT instructor is no longer judged competent to provide operational training.
- Technical personnel undertaking safety related tasks:
  - are properly trained and qualified to perform the assigned tasks;
  - have and maintain sufficient knowledge to ensure a sound understanding of the air navigation services they are supporting, and the actual and potential effects of their work on the safety of those services;
  - have and maintain their knowledge of the appropriate working limits to be applied when performing operational safety related tasks;
  - do not undertake the assigned operational safety related tasks if it is known or suspected that the individuals' physical or mental condition render them unfit to undertake such tasks.
- The Head of NSA shall ensure all requirements applicable to controller and ANS technical personnel competence are audited every two (2) years.

Attachment III – Safety Procedures

Safety procedures in the Civil Aviation Authority

Number of document	Document
К 2-6.3-22	Doc. procedure on the manner of assessment of CAA employees
К 2 - 7.5 - 15	Doc. procedure on obtaining approvals for scheduled, non-scheduled air services and approval of general aviation flights
К2-7.5-54	Doc, procedure for derogations in accordance with the regulations at the Department of Airports and Airport Services
К 2-7.5-32	Doc. procedure on safety oversight
К 2 7.5 - 07	Doc. procedure on safety oversight of airport infrastructure, airport services and services provided at the airport
К 2 - 7.5 - 10	Doc. procedure for following procedures for certain processes at the Department of licenses and aviation medicine
К 2-7.5-31	Doc. procedure on following the procedure on publishing and updating data in the AIP
К2-7.5-61	Doc. procedure on modifications and repairs of aircraft registered in the R. Macedonia
К2-7.5-59	Doc. procedure on issuing noise certificates of aircraft
К2-7.5-60	Doc. procedure for undertaking measures in case of improper documents for a part of a component of aircraft entered into the Registry of aircraft of the RM
К2-7.5-56	Doc. procedure on the contents and methodology for keeping and archiving personal files of aviation personnel
К2-7.5-57	Doc. procedure on the manner of verification and acceptance of foreign training organizations, where holders of licenses issued by the CAA of the RM are being trained
К2-7.5-58	Doc. procedure on derogation in accordance with the regulations of the Licensing Department
К2-7.5-55	Doc. procedure for submitting opinions, data and information through the e-urbanism system
К 2-6.3-23	Doc. procedure on the procedure of preventing irregularities, the manner of mutual cooperation, the form, contents, deadlines and the manner of notification on irregularities

K2-7.5-53	Doc. procedure on issuing approval for ground handing services at airports
K2-7.5-35	Doc. procedure on decrease, loss or doubt in medical condition
K2-7.5-52	Doc. procedure on reporting the misuse of psychoactive substances
K2-7.5-51	Doc. procedure for derogations in accordance with the regulations of the Air Navigation Department
K 2-7.5-33	Doc. procedure on acting in the case of signing an agreement for transfer of responsibly from the country of registry to the country of operator
K 2 - 7.5 –23/1	Doc. procedure on acting in relation to draft amendments and amendments of ICAO SARPs and submitting differences
K2-7.5-50	Doc. procedure on collecting and submitting ICAO data for bird or animal strikes with aircraft at airports
K2-7.5-48	Doc. procedure for submitting annexes and other ICAO documents to the entities of aviation industry or other institutions
K 2 - 6.2 - 04	Doc. specific procedure on approval/acceptance of tests/testing organizations for knowledge of English language in accordance with ICAO requirements and endorsement of ELPAC rating in the aviation personnel licenses
K2-7.5-46	Doc. procedure on issuing a registration certificate
K 2 - 7.5 - 11	Doc. procedure on issuing initial medical certificates and keeping archives with data on the medical condition of aviation personnel and other qualified personnel
K2-7.5-37	Doc. procedure on issuing authorization for Aeromedical Center with Terms of Reference
K2-7.5-39	Doc. procedure on suspension, withdrawal, cancellation of medical certificate and revocation of license due to medical issues
K2-7.5-40	Doc. procedure of harmonization of the medical condition of the aviation personnel and other qualified personnel of AME, AMC, AMS
K2-7.5-41	Doc. procedure on management of medical documents and access to confidential information and documents
K2-7.5-43	Doc. procedure on medical examinations of aviation personnel and other qualified personnel and issuing medical certificates
K2-7.5-42	Doc. procedure on approval and/or implementation of training in aviation medicine and approval of hours for congresses and seminars
K2-7.5-44	Doc. procedure on submitting medical certificates and medical documents to the competent aviation authorities of other states
K2-7.5-36	Doc. procedure on issuing authorization for Authorized Medical Examiner (AME) with terms of reference

K2-7.5-38	Doc. procedure on re-assessment of the assessment of the medical condition-second review
K2-7.5-34	Doc. procedure on the procedures for implementation of aviation standards and recommended practices
К 2-7.5-29/1	Doc. procedure on initiating infringement procedure by the CAA
К 2-6.3-12/1	Doc. procedure on obtaining inspector's authorization
К 2-7.5-27	Doc. procedure on aviation security oversight of foreign aircraft
К 2-7.5-28	Doc. procedure on the manner of issuing amendment, revalidation of AWAOC and continuous oversight, limitation, suspension and withdrawal of the AWAOC
К 2-7.5-29	Doc. procedure on informing foreign investigation authorities or institutions which have sent safety recommendations to the RM
К 2 - 7.5 - 25	Doc. procedure on endorsement of radiotelephony privileges
К 2 - 7.5 - 12	Doc. procedure on planning and coordination of search and rescue of airport in emergency
К 2-7.5-13/1	Doc. procedure on the manner od carrying out technical investigation regarding the reported occurrences in aviation
К 2 - 7.5 - 06	Doc. procedure on certification of airport or airfield
К 2 - 7.5 - 01	Doc. procedure on implementation of a procedure on issuing AOC, AWAOC, CAOC
К 2 - 7.5 - 02	Doc. procedure on following procedures on issuing certificates on airworthiness, noise, maintenance and registration of aircraft
К 2 - 7.5 - 05	Doc. procedure on issuing consent with requirements for construction of objects
К 2 - 8.2 - 01	Doc. procedure on internal audit
К 2 - 8.5 - 01	Doc. procedure on corrective and preventive measures
К 2 -7.5 -04	Doc. procedure on airport, airfield or terrain

Attachment IV – Civil Aviation Authority safety oversight activities in 2016 and 2017

Data for the Department of Airports and Airport Services for the period 2016-2018

Description	2016	2017
Recertification/certification of industry entities	---	7 (recertification)
Number of inspections (scheduled, follow-up and non-scheduled) for the stated years	73 (total)	81 (total)
Number of open and closed remarks/findings	68 (closed)	140 (closed)
Have any changes of the existing systems which are subject to our oversight been submitted to the CAA in the stated years? (Number of changes, big/small)	---	---
Have qualified entities been used for carrying out inspections/oversight required by us (when, where and for what purpose)	---	---
Issued safety recommendations	---	---

Note: *The number of inspections includes the oversight of obstacles and the number of remarks does not include the remarks on obstacles.*

Data for Airworthiness

Description	2016	2017
Recertification/certification of industry entities	6 (Aero-Dienst /Germany; Avialsa /Spain; ZTC/Croatia, AK,,Skopje"-AOC,Bonier-Kumanovo-AOC, Department of General and Common Affairs)	7 (Aero-Dienst;Avialsa;ZTC;AKS;Bonier;AKS-Part 145;Department of General and Common Affairs)
Number of inspections (scheduled, follow-up and non-scheduled) for the stated years	Scheduled : 53 Follow-up : 4 Non-scheduled : 2	Scheduled : 62 Follow-up : 3 Non-scheduled : 3
Number of open and closed remarks/ findings	58 (closed 40)	52 (closed 52)
Have any changes of the existing systems which are subject to our oversight been submitted to the CAA in the stated years? (Number of changes, big/small)	4	1
Have qualified entities been used for carrying out inspections/oversight required by us (when, where and for what purpose)	-	-
Issued safety recommendations	Issued safety recommendation/ Operational directive for Lajkoming Motor (Utva) 08-1801/1 from 13.12.2016	---

Data for Licensing

Description	2016	2017
Recertification/certification of industry entities	7 (AK SKP/TC – PADOBR.; AK STP/TC-EDRIL; PFC SKP/TC-ULA; KES SKY RIDERS/TC-PG; M-NAV/TC-ATCO; MAXIM/ TC-ATCO)	11 (AK SKP/RF;AK SKP/ TC- EDRIL; AK STP/ TC-EDRIL; AK STP/ TC- RF; AK KUM/TC-EDRIL; AK KUM/TC-EDR; AK VINGER TIM/ TC-ULA; PK DELTA/ TC-PG; M-NAV/TC ATCO; M-NAV/TC-MET; M-NAV- TC- ATSEP)
Number of inspections (scheduled, follow-up and non-scheduled) for the stated years	27 (total)	34 (total)
Number of open and closed remarks/findings	-	-
Have any changes of the existing systems which are subject to our oversight been submitted to the CAA in the stated years? (Number of changes, big/small)	---	---
Have qualified entities been used for carrying out inspections/oversight required by us (when, where and for what purpose)	---	---
Issued safety recommendations	---	---

Data for OPS

Description	2016	2017
Recertification/certification of industry entities	Department of General and Common Affairs - AOC Protection and Rescue Directorate - AWAOC Bonier-AWAOC AK Skopje– AWAOC	Department of General and Common Affairs - AOC Protection and Rescue Directorate -AWAOC Bonier-AWAOC AK Skopje– AWAOC
Number of inspections (scheduled, follow-up and non-scheduled) for the stated years	Department of General and Common Affairs (3 scheduled), Protection and Rescue Directorate (1 scheduled, 2 non-scheduled) Bonier (1 scheduled) AK Skopje (1 scheduled, 2 non-scheduled)	Department of General and Common Affairs (3 scheduled), Protection and Rescue Directorate (1 scheduled, 2 non-scheduled) Bonier (1 scheduled) AK Skopje (1 scheduled, 2 non-scheduled)
Number of open and closed findings	5 (closed)	9 (closed)
Have any changes of the existing systems which are subject to our oversight been submitted to the CAA in the stated years? (Number of changes, big/small)	---	---
Have qualified entities been used for carrying out inspections/oversight required by us (when, where and for what purpose)	---	---
Issued safety recommendations	---	---

Data for Medical

Description	2016	2017
Recertification/certification of industry entities	0	7(recertification)
Recertification/certification of Authorized Medical Examiner (AME)	2 (certification)	
Recertification/certification of AeroMedical Center (AMC)	0	0
Evaluation of medical fitness of candidates by AME/AMC w/wo support of AMS CAA	202	310
AME/AMC reported to AeroMedical Section(AMS) in CAA any individual case where there is doubt of medical fitness of candidate and AMS may decide	1	14
Second review procedure	0	1
Number of inspections (scheduled, follow-up and non-scheduled) for the stated years	4 on industry entities + 202 inspections of medical documents + daily monitoring on AME/AMC work	4 on industry entities +310 inspections of medical documents + daily monitoring on AME/AMC work
Number of open and closed remarks/findings	0	0
Have any changes of the existing systems which are subject to our oversight been submitted to the CAA in the stated years? (Number of changes, big/small)	1	1
Have qualified entities been used for carrying out inspections/oversight required by us (when, where and for what purpose)	0	1 (medical experts for second review procedure)
Issued safety recommendations to industry entities	2 to industry entities + daily recommendations to industry entities and holders of medical certificates	1 to industry entities + daily recommendations to industry entities and holders of medical certificates

CIVIL AVIATION AGENCY
Republic of Macedonia

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In cooperation according public call procurement process in 2018/12

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