International Civil Aviation Organization

MIDANPIRG/20 and RASG-MID/10 Meeting

(Muscat, Oman, 14 - 17 May 2023)

Agenda Item 5.2: Outcomes of the SEIG/4 Meeting

OUTCOMES OF THE SEIG/4 MEETING

(Presented by the Secretariat)

SUMMARY

This paper presents the outcome of the SEIG/4 meeting, Draft MID-RASP 2023-2025 Edition in line with GASP 2023-2025 Edition including the Safety Enhancement initiatives' (SEIs) and the MID Region Safety Performance Monitoring (SPM). It also covers the NASP and SSP.

Action by the meeting is at paragraph 3.

REFERENCES

- SEIG/4 Report
- MIDANPIRG/19-RASG-MID/9 Report

1. INTRODUCTION

1.1 The Fourth meeting of the Safety Enhancement Implementation Group (SEIG/4) was held from 23 to 25 October 20222 in Cairo, MID Office. The meeting was attended by a total of twenty (20) participants from Ten (10) States (Bahrain, Egypt, Iran, Jordan, Qatar, Saudi Arabia, Sudan, UAE and Yemen), one (1) Organization (IATA).

2. DISCUSSION

Update on the implementation Progress of the Safety Enhancement Initiatives (SEIs)

2.1 The Middle East Regional Aviation Safety Plan (MID-RASP) 2020-2022 Edition considers and supports the objectives and priorities of GASP 2020-2022 Edition. MID-RASP also emphasizes the importance of identifying and mitigating risks at MID region level.

2.2 The Eighth meeting of the Regional Aviation Safety Group – Middle East (RASG-MID/8) was held in Cairo, Egypt, Virtual Meetings, 15-22 February 2021; reviewed and endorsed the MID-RASP 2020-2022 Edition including the SEIs list and their respective actions through RASG-MID Conclusion 8/3.

2.3 The SEIG/4 meeting reviewed and updated the SEIs and their respective safety actions, as well as the status of implementation of the SEIs as at **Appendix A**. The meeting also noted that **34 Safety actions** out of 53 have been implemented and completed.

2.4 The meeting was also apprised with appreciation of the update on the implementation progress of the SEIs conducted by the Secretariat.

SEIs Guidance material development

2.5 The SEIG/4 meeting noted with appreciation the guidance material developed by IATA on measures to improve the effectiveness of Enhanced Ground Proximity Warning System (EGPWS)/Terrain Awareness and Warning System (TAWS) to mitigate the risks related to CFIT.

2.6 The meeting noted that the industry is aware that the mandate of EGPWS/TAWS and the immediate response to EGPWS/TAWS warnings has been proven to be a great barrier to prevent CFIT accidents when used as intended. Evidence shows that in order to obtain the greatest safety benefit from EGPWS/TAWS and to ensure that the system remains effective, a call for action by the operators to ensure they update their systems is needed a task that can be achieved at very little cost.

2.7 The meeting also noted that experience has also proved that State safety oversight is an essential tool in ensuring that safety recommendations and best practices are an integral part of airlines' operations. Accordingly, the SEIG/4 meeting reviewed the ***draft EGPWS/TAWS guidance material*** at **Appendix B** and agreed to its presentation to the RASG-MID/10 meeting for endorsement.

2.8 The SEIG/4 meeting noted with appreciation the guidance material developed by the States of Bahrain and Oman to support States' inspectors to conduct oversight to ensure safe transport of Dangerous goods by air.

2.9 The guidance material intends to address the regulatory, technical and operational aspects of safe transport of Dangerous Goods by air and was developed with the purpose of providing guidelines for competent authorities involved to ensure the implementation of safety controls for movement of DG by air. Accordingly, the SEIG/4 meeting reviewed the **draft Dangerous Goods inspectors oversight guidance material** at **Appendix C** and agreed to its presentation to the RASG-MID/10 meeting for endorsement.

2.10 The SEIG/4 meeting noted with appreciation the guidance material developed by the State of UAE to support States' on developing occurrence reporting system for the CAA and on establishing an effective operation of the mandatory and voluntary reporting systems.

2.11 The meeting noted that occurrence reports are a core data source used to inform the CAAs decision and policy making, it also assists in setting State's Strategic Safety Objectives and safety intelligence. Accordingly, the SEIG/4 meeting reviewed the **draft occurrence reporting guidance material at Appendix D** and agreed to its presentation to the RASG-MID/10 meeting for endorsement.

2.12 The SEIG/4 meeting noted with appreciation the guidance material developed by the State of UAE to support States' on developing and conducting an SMS Assessment on its Service providers.

2.13 The meeting noted that as part of the State Safety Assurance; and as the SSP sets out the requirements for the State and service providers' safety assurance processes; the oversight and surveillance activities on service providers and the internal review of its regulatory and administrative processes. Accordingly, the SEIG/4 meeting reviewed the draft **SMS Assessment guidance material** at **Appendix E** and agreed to its presentation to the RASG-MID/10 meeting for endorsement.

MID Region Safety Priorities and Targets

2.14 The SEIG/4 meeting was provided with updated information on the MID Region safety priorities and safety targets.

2.15 The meeting noted with appreciation the MID Region safety priorities.

Regional Operational Safety Risks

a. Runway Excursion (RE) and Abnormal Runway Contact (ARC) during landing;
b. Loss of Control Inflight - (LOC-I);
c. Mid Air Collision- (MAC)
d. Controlled Flight Into Terrain- (CFIT); and
e. Runway Incursion- (RI).

Organizational issues

a. States' Safety Oversight Capabilities
b. Safety management
c. Human Factors and Competence of Personnel
d. Cybersecurity

Emerging Risks

a. GNSS interference
b. COVID-19 Pandemic
c. Ensure the Safe Operations of UAS
d. Impact of Security on Safety
e. 5G interference with Radio Altimeter

2.16 The meeting also noted with appreciation the MID region safety targets.

GASP & NASP Update

2.17 The SEIG/4 meeting was briefed on the latest amendments to the 2023-2025 edition of the GASP including the revision of targets taking into account several factors such as the impact of the COVID-19 pandemic on aviation safety-related activities**.**

2.18 The meeting also noted that the Guidance related to the development and implementation of a national aviation safety plan (NASP) is updated, and published to coincide with the 2023-2025 edition of the GASP.

2.19 The meeting was informed that a dedicated NASP Implementation Package (iPACK) was also launched in 2022 to assist States with the development of their plans.

MID RASP 2023-2025 Edition

2.20 The Middle East Regional Aviation Safety Plan (MID-RASP) 2023-2025 Edition presents the strategic direction for the management of aviation safety in the MID Region, to strengthen Member States Safety Oversight System, and risk-based approach to managing safety and support effective implementation of States' Safety Programmes (SSP) and Safety Management System (SMS) including the development of NASPs.

2.21 The MID-RASP 2023-2025 Edition identifies MID Region Safety Performance Monitoring (SPM) with specific safety targets in line with GASP and the RASG-MID would continuously monitor the implementation of the Safety Enhancement Initiatives (SEIs) and measure safety performance of regional civil aviation, to ensure the intended targets are achieved using the MID Region SPM.

2.22 The MID-RASP provides strategy for improving safety within a specified timeframe, through defined SEIs in a coordinated, cooperative and collaborative approach among States, international organizations, and industry to achieve Safety Targets.

2.23 Fostering effective risk management capabilities in the MID Region, State and industry level to cope with the systemic and operational safety risks and wide-ranging effects of the crisis and constitute an important enabler for building back a more resilient aviation system.

2.24 The MID-RASP strategic approach would focus on organizational challenges/issues, regional operational safety risks, and emerging risks as indicated below.

a) Organizational challenges/issues including the States 'safety oversight, safety management, aircraft accident and incident investigation, human factors and competence of personnel, and Cybersecurity.
b) Regional operational safety risks, the focus would be on Regional high risks categories (R-HRC) identified in the GASP 2023-2025 Edition mainly the LOCI-I, CFIT, RE, RI, and MAC; and
c) Emerging risks, the focus would be on COVID-19 pandemic outbreak, Civil drones (Unmanned Aircraft Systems), GNSS interference, impact of security on safety, and 5G interference with Radio altimeter.

2.25 The SEIG/4 meeting commended the ICAO MID Office efforts for developing the draft MID-RASP including the SEIs & safety action and the MID Region safety performance monitoring; which would mainly support States to effectively implement their SSP in a timely manner, and to strengthen the implementation of SMS in their aviation industry including the National Aviation Safety plan (NASP); State's safety oversight system; and a risk-based approach to managing safety as well as a coordinated approach to collaboration between States, international organizations, and industry.

2.26 Thus, to address regional operational risks, organizational issues, and emerging risks; 24 Safety Enhancement Initiatives (SEIs) and 59 safety actions have been identified, developed and proposed. Accordingly, the SEIG/4 meeting reviewed the draft MID-RASP 2023-2025 Edition at **Appendix F** and agreed to its presentation to the RASG-MID/10 meeting for endorsement.

2.27 The SEIG/4 meeting recognized the importance to develop harmonized mechanism to manage the civil aviation exemption by various CAAs in the MID region and the need to establish an Action Group led by the State of Qatar to develop guidance material. Accordingly, the meeting agreed to establish an action group to develop the guidance material to assist MID Region States in the issuance of exemptions related to temporary deviations from standards impacting Articles 38 and 40 of the Chicago Convention and to its presentation to the RASG-MID/10 meeting for endorsement.

2.28 The SEIG/4 meeting recognized the importance to develop guidance material to support States for the conduct of remote surveillance and the need to establish an Action Group led by the State of Qatar to develop guidance material. Accordingly, the meeting agreed to establish an action group to develop the guidance material to support MID States for the conduct of remote surveillance and to its presentation to the RASG-MID/10 meeting for endorsement.

2.29 The meeting also agreed to include both proposed guidance material in the draft MID-RASP 2023-2025 Edition as safety actions and be covered under G2-SEI-01.

MID States Progress on NASPs Development

2.30 The SEIG/4 meeting noted that States of Iraq, Kuwait, Lebanon, Oman, Saudi Arabia, Sudan, and UAE completed and shared their NASPs with ICAO MID office.

2.31 In line with the Safety Strategic Objective of the International Civil Aviation Organization (ICAO), the 2023-2025 edition of the Global Aviation Safety Plan (GASP, Doc 10004) presents the global strategy for the continuous improvement of aviation safety. It also provides a framework in which regional and national aviation safety plans (RASPs and NASPs) are developed and implemented.

2.32 The States NASP should be developed in alignment with the GASP and the MID-RASP. However, priority should be given to national safety issues. Moreover, the NASP should be also aligned and coordinated with the MID-RASP (as appropriate

2.33 The SEIG/4 meeting recognized the challenges facing the States in the development of their NASPs. In this respect, the meeting noted that the ICAO MID Office is planning to conduct Assistance Missions dedicated to NASP in order to support States with NASP development.

2.34 The SEIG/4 meeting was apprised and thanked Saudi Arabia and UAE for sharing their experiences and challenges related to the development of NASP.

2.35 The meeting may wish to the challenges faced by States in developing their NASPs.

- Coordination and communication with stakeholders
- Senior management commitment
- New technologies (UAS and eVTOL)
- Lack of safety data and safety information
- Lack of NASP workshops/trainings
- Lack of resources including financial

State Safety Programme (SSP)

2.36 The meeting recalled the Regional Roadmap for Safety Management Implementation and the Safety Management Implementation Team (SMIT) Handbook endorsed by through RSC Conclusion 7/10 and Conclusion RASG-MID 9/4 respectively. States should build upon fundamental safety oversight systems to implement effective SSPs. As per Annex 19, States shall require that applicable service providers under their authority implement an SMS. The SMS enables service providers to capture and transmit safety information, which contributes to safety risk management. An SSP requires the implementation of a risk-based approach to measure and monitor the safety performance of the State's civil aviation system and the progress towards achieving the State's safety objectives. In this context, the role of the State evolves to include the establishment and achievement of safety performance targets, as well as effective oversight of its service providers' SMS.

2.37 The meeting recognized the challenges facing the Sates on the development of SSP. In this respect, the meeting was apprised about MID Regional Office to conduct Assistance Missions dedicated to SSP in order to support States with SSP development. Accordingly, the SEIG/4 meeting reviewed the draft SSP information template at **Appendix G** and agreed to its presentation to the RASG-MID/10 meeting for endorsement.

IATA PPTs (GNSS Interference and Risk Based IOSA)

2.38 The SEIG/4 meeting was informed and thanked IATA on sharing the GNSS interference analysis, 2022 Mid-year accident update, and the risk based IOSA.

3. ACTION BY THE MEETING

3.1 The meeting is invited to:

a) review and endorse the Enhanced Ground Proximity Warning System (EGPWS) guidance material (RSA-16) at **Appendix B** and agree to the following Draft Conclusion:

Why	To use the guidance material to improve the effectiveness of Enhanced Ground Proximity Warning System (EGPWS) and mitigate the CFIT.
What	To endorse the effectiveness of Enhanced Ground Proximity Warning System (EGPWS) guidance material
Who	RASG-MID/10
When	May 2023

DRAFT RASG-MID CONCLUSION 10/XX: EGPWS/TAWS GUIDANCE MATERIAL

*That, the guidance material (RSA-16) on measures to improve the effectiveness of Enhanced Ground Proximity Warning System (EGPWS)/Terrain Awareness and Warning System (TAWS) at **Appendix B** is endorsed.*

b) review and endorse the Dangerous Goods Inspectors Oversight guidance material (RSA-18) at **Appendix C** and agree to the following Draft Conclusion:

Why	To use the guidance material to support States' inspectors to conduct DG oversight on service Providers and ensure safe transport of DG by air.
What	To endorse the DG Inspectors Oversight guidance material
Who	RASG-MID/10
When	May 2023

DRAFT RASG-MID CONCLUSION 10/XX: DG INSPECTORS OVERSIGHT GUIDANCE MATERIAL

*That, the guidance material (RSA-18) to support States inspectors to conduct oversight to ensure safe transport of dangerous goods by air at **Appendix C** is endorsed.*

c) review and endorse the occurrence reporting guidance material (RSA-17) guidance at **Appendix D** and agree to the following Draft Conclusion:

Why	To support States with SSP implementation including the identification of safety risks and issues.
What	To endorse occurrence reporting guidance.
Who	RASG-MID/10
When	May 2023

DRAFT RASG-MID CONCLUSION 10/XX: OCCURRENCE REPORTING GUIDANCE MATERIAL

*That, the guidance material (RSA-17) to support States' on developing an occurrence reporting system for the CAA and on establishing an effective operation of the mandatory and voluntary reporting systems at **Appendix D** is endorsed.*

d) review and endorse the SMS assessment guidance material (RSA-19) at **Appendix E** and agree to the following Draft Conclusion:

Why	To support States with SSP implementation including the service providers SMS assessment.
What	To endorse SMS assessment guidance material.
Who	RASG-MID/10
When	May 2023

DRAFT RASG-MID CONCLUSION 10/XX: SMS ASSESSMNET GUIDANCE MATERIAL

*That, the guidance material (RSA-19) to support States' on developing and conducting an SMS Assessment on their Service providers at **Appendix E** is endorsed.*

e) review and endorse the MID-RASP 2023-2025 Edition at **Appendix F** and agree to the following Draft Conclusion:

Why	To support States to develop NASP in line with GASP &MID-RASP and enhance safety in the region.
What	To endorse MID-RASP 2023-2025 Edition.
Who	RASG-MID/10
When	May 2023

DRAFT RASG-MID CONCLUSION 10/XX: MID-RASP 2023-2025 EDITION

That,

*a. the MID-RASP 2023-2025 Edition including the Safety Enhancement Initiatives (SEIs) and the MID region Safety performance Monitoring at **Appendix F** is endorsed; and*

b. urge States to support the MID-RASP 2023-2025 Edition activities including SEIs and their respective safety actions.

f) endorse the establishment of the action group and agree to the following Draft Conclusion:

WHY	*to assist MID Region States in the issuance of exemptions related to temporary deviations from standards impacting Articles 38 and 40 of the Chicago Convention.*
What	Establishment of the action group
Who	RASG-MID/10
When	May 2023

DRAFT RASG-MID DECISION 10/XX: ESTABLISHMENT OF THE ACTION GROUP

That, the Action Group composed of the following States & international organizations and their nominated experts, is established to develop the guidance material to assist MID Region States in the issuance of exemptions related to temporary deviations from standards impacting Articles 38 and 40 of the Chicago Convention.

- *Iran: Mr. Mahmoodreza Rohani*
- *Qatar: Dr. Ramy Saad*
- *Sudan: Mr. Bahaeldin AbdAlrahim Yassin*
- *UAE: Mr. Ahmed Salim Abdalla AlSaabri*
- *IATA: Mr. Jehad Faqir.*

g) endorse the establishment of the action group and agree to the following Draft Conclusion:

WHY	*to develop the guidance material to support States for the conduct of remote surveillance.*
What	Establishment of the action group
Who	RASG-MID/10
When	May 2023

DRAFT RASG-MID DECISION 10/XX: ESTABLISHMENT OF THE ACTION GROUP

That, the Action Group composed of the following States and their nominated experts, is established to develop the guidance material to support States for the conduct of remote surveillance.

- *Iran: Mr. Jaber Goodarzi*
- *Jordan: Eng. Rawan Al-Naimat*
- *Qatar: Dr. Ramy Saad*
- *Saudi Arabia: TBD*
- *Sudan: Mr. Bahaeldin AbdAlrahim Yassin*
- *UAE: Mr. Eisa Saeed Al Mesmari*

h) agree to the following Draft Conclusion related to the National Aviation Safety Plans (NASPs):

WHY	To establish NASPs in the MID States
What	Development of NASPs
Who	RASG-MID/10
When	May 2023

DRAFT RASG-MID CONCLUSION 10/XX: DEVELOPMENT OF NATIONAL AVIATION SAFETY PLAN (NASP) IN MID STATES

That, States

a. urged to develop and implement the NASP in line with the GASP and MID-RASP, if not yet done so;
b. encouraged to continue to use existing ICAO guidance material and tools to implement their NASPs;
c. encouraged to share the latest version of their NASPs with ICAO HQ and ICAO Regional MID office for posting on the GASP public website;
d. encouraged to request assistance from the ICAO MID Regional Office related to the development of their NASPs including the conduct of assistance missions and/or customized NASP Workshop for each State; and
e. encouraged to share their experiences related to the development of their NASPs during the SEIG meetings and/or Regional NASP Workshop to be organized by the ICAO MID Regional Office in 2024.

i) agree to the following Draft Conclusion related to the State Safety Programme (SSP):

WHY	To support MID States with SSP development and implementation.
What	Development of SSP
Who	RASG-MID/10
When	May 2023

DRAFT RASG-MID CONCLUSION 10/XX: DEVELOPMENT OF SSP IN MID STATES

That, States be:

a. encouraged to effectively implement their State Safety Programme in a timely manner, and to strengthen the implementation of safety management systems in their aviation industry;
b. encouraged to request assistance from the ICAO MID Regional Office related to the development and implementation of their SSPs including the conduct of assistance missions and/or customized SSP implementation Workshop for each State;
c. encouraged to support the SMIT activities;
d. share their experiences on the development of their SSPs during the SEIG meetings; and
e. encouraged to share their latest version of SSP manuals with ICAO MID Office; and
*f. States are urged to provide the ICAO MID Office by **15 Jan 2023** with the SSP information using the template **in Appendix G** to support MID office in identifying and prioritising the needs of States on SSP development and implementation.*

APPENDIX A

Safety Actions- Consolidated List of SEIs with their respective Actions

SEI Code	SEI Name	Actions	Owner(s)	Status/Progress	Completion Date
Organizational Challenges and Emerging Risks					
Goal 2: Strengthen States' Safety Oversight Capabilities					
G2-SEI-01:	Strengthening of States' Safety Oversight Capabilities	**A1-** Conduct Capacity Building Activities (Workshops, Training, Webinars, GSI Courses) to promote effective implementation of SARPs, with a focus on the following technical areas: ANS, AGA, AIG and OPS.	ICAO	Workshops/Webinars conducted. *(Completed)*	2022 **Completed** **Included in the Second MID-RASP Edition**
		A2- Conduct technical assistance and NCLB missions to States.	ICAO	Technical assistance missions conducted. *(Completed)*	2022 **Completed** **Included in the Second MID-RASP Edition**
		A3- Develop and implement a specific NCLB plan of actions.	ICAO and concerned States	Postponed for 2023	2022 **Included in the Second MID-RASP Edition**

G2-SEI-02:	Improve Regional Cooperation for the Provision of Accident & Incident Investigation	**A1-** Development and signature of the MOU among MENA ARCM States	ICAO, ACAO, and MENA ARCM Member States	The MENA ARCM MoU has been signed by Fourteen (14) States namely Djibouti, Iraq, Iran, Jordan, Kuwait, Libya, Mauritania, Morocco, Palestine, Oman, Saudi Arabia, Sudan, United Arab Emirates, and Yemen. The kick-off of the MENA ARCM operations has been officially announced during the Future Aviation Forum held in Riyadh, Saudi Arabia (9-11 May 2022). Second MENA ARCM Conducted in Jeddah. *(Completed)*	2022 **Completed**
		A2- Conduct AIG Capacity Building Activities	Joint event KSA AIB/ICAO	Aircraft Accident and Incident investigation Workshop held Jeddah in September 2022 during AIIG/2. *(Completed)*	2022 **Completed** **Included in the Second MID-RASP Edition**
G2-SEI-03:	Sharing of Safety Recommendations related to Accidents and Serious Incidents	**A1-** Development of questionnaire to be circulated to MENA States on sharing safety recommendations on dedicated platform.	ICAO, ACAO, and States (KSA & UAE)	The questionnaire endorsed by the RASG-MID/9. SL has been circulated to the MENA ARCM member States. Analysis presented to MENA ARCM Committee/2 Meeting. *(Completed)*	2022 **Completed** **Included in the Second MID-RASP Edition**

G2-SEI-04:	Enhance State Oversight on Dangerous Goods	**A1-** Dangerous Goods (DG) Workshop for States 'inspectors.	ICAO and ACAO. Supported by FAA	1. Joint ACAO/ICAO Dangerous Good Webinar has been held on 8 November 2021. 2. Joint event ACAO/ICAO Dangerous Goods Workshop back to back with Ground handling Workshop planned to be held in Rabat. 3. ACAO/GCAA Webinar on Regulating The Transport of Dangerous Goods by Air in United Arab Emirates has been conducted the 23 June 2022. *(Completed)*	2022 **Completed** **Included in the Second MID-RASP Edition** Joint Event ACAO/ICAO DG Workshop in Casablanca 12-15 December 2022
		A2- Develop guidance material/share best practices to support States' inspectors for the conduct of the oversight for DG.	States (Bahrain and Oman)	Draft to be presented to SEIG/4 for review. *(Completed)*	**Completed**
		A3- Develop guidance material and providing Webinar high energy devices.	IATA	IATA will provide the tentative dates on Jan 2022 or Q1 2022.	2022 **Included in the Second MID-RASP Edition**
		A4: Organize DG Capacity Building Training	ICAO	Postponed for 2023	2022 **Included in the Second MID-RASP Edition**

G2-SEI-05:	Human factors and Competence of Personnel	**A1-** Advisory Circular: Crew Resource Management Training Programme (CRM). **(Action addressed under G1-SEI-04: CFIT).**	IATA	IATA will provide the tentative dates on January 2022 or Q1 2022.	**Included in the Second MID-RASP Edition**
		A2- Organize Crew Resource Management Training Workshop/webinar to share experience and best practices on CRM practical implementation.	ICAO, ACAO, and IATA	Crew Resource Management (CRM) Webinar planned held 20 June 2022. Joint ACAO/ICAO/IATA. (Completed)	2022 **Completed** **Included in the Second MID-RASP Edition**
		A3- Conduct Workshop/Webinar on Fatigue Risk Management and Mental Health Best Practices.	IATA, ACAO, and CANSO	1. Webinar organized on 9 June 2022 jointly between ACAO/IATA/CANSO. 2. An online Workshop conducted on FRMS jointly by ACAO and CAAS/SAA from 20 to 24 September 2021. (Completed)	2022 **Completed** **Included in the Second MID-RASP Edition**
		A4- Organize Team Resource Management Training Workshop/Webinar to share experience and best practices on TRM practical implementation.	ICAO, ACAO, IATA, CANSO, FAA, and States (TBD	Postponed for 2023	2022 **Included in the Second MID-RASP Edition**

G2-SEI-06:	Impact of security on safety	**A1-** Circulate ICAO Doc 10084 Risk Assessment Manual for Civil Aircraft Operations Over or Near Conflict Zones.	ICAO	SL issued by ICAO July 2021. *(Completed)*	2021 **Completed**
		A2- Organize seminar/Symposium to exchange experiences and good practices on assessing the risks and sharing of information related to the overflying of conflict zones in coordination with RASFG-MID and MIDANPIRG.	ICAO and ACAO. Supported by IATA, CANSO, States (TBD)	To be included with the Civil-Military Cooperation Workshop. Postponed for 2023	2022 **Included in the Second MID-RASP Edition**
		A3- Encourage States to issue NOTAMs to share threats information emanated from conflict zones within their airspaces.	ICAO	*(Completed)*	2021 **Completed**
		A4- AIM forum NOTAM standardized template.	ICAO and IATA	Presented to AIM SG9 meeting in September. *(Completed)*	2022 **Completed**
Goal 3: Ensure the Appropriate Infrastructure is available to Support Safe Operations					
.G3-SEI-01:	Certification of International Aerodromes	**A1-** Support States on the implementation of the ICAO Annex 14 requirements to achieve compliance with regards to Aerodrome Design and Operations, through Workshops/Training.	ICAO and ACI. Supported by ACAO	1. Training course conducted on implementing Annex 14, during period of 8-12 November 2020. *2.* Online Workshop on airport certification conducted by ACAO during the period 25-28 October 2021. *(completed)*	2022 **Completed** **Included in the second MID-RASP Edition**
		A2- Enhance capacity building for States CAAs and Airport operators related to Aerodromes Certification through Workshops/Training	ICAO and ACI	Conducted Training on Aerodrome Certification 15-19 Nov 2021. *(completed)*	2022 **Completed** **Included in the second MID-RASP Edition**

		A3- Develop guidance material/ share best practices on Apron Management	States (UAE and Egypt)	Endorsed by the RASG-MID/9 and published on the ICAO Web Site. *(completed)*	2022 **Completed**
		A4 - Deployment of iPack on Aerodrome Re-Start	ICAO	iPack for Aerodrome Restart deployed for Syria. *(completed)*	2022 **Completed**
G3-SEI-02:	Establish Runway Safety Team (RST) at International Aerodromes	**A1-** Conduct of assistance missions by the Runway Safety Go-Team (RST)	ICAO. Supported RSP (Runway Safety Programme Partners)	Postponed for 2023	2022 **Included in the second MID-RASP Edition**
		A2: Support States to implement the Global Reporting Format Methodology through Workshops/trainings**: (Action addressed under G1-SEI-02: Runway Excursion).**	ICAO and ACI.	1. Webinar has been conducted on 27 Oct 20 2. ACI webinar on Implementing GRF at airports with non-winter conditions; dated 27 May 2021 3. Five customized training on GRF implementation conducted. *(completed)*	2022 **Completed** **Included in the Second MID-RASP Edition**
Goal 4: Expand the Use of Industry Programmes					
G4-SEI-01:	Promote the Use of industry Programmes	**A1-** Encourage IATA's IOSA and ISAGO registrations through safety promotion	IATA	6 States signed the MoU 2 potential States to be added to the list 2022. *(completed)*	2022 **Completed** **Included in the Second MID-RASP Edition**
		A2- Encourage the implementation of ACI Airport Excellence (APEX) in Safety Programme	ICAO and ACI	Postponed for 2023	2022 **Included in the Second MID-RASP Edition**
Goal 5: Implementation of Effective SSPs and SMSs					

G5-SEI-01:	Implement an effective Safety Management	**A1-** Conduct ICAO SSP Training Course in Cairo	ICAO	SSP course planned for 18-23 September 2022. Postponed for 5-10 February 2023	2022 **Included in the Second MID-RASP Edition**
		A2- Conduct SSP Workshop in coordination with ACAO in Casablanca, Morocco	ICAO and ACAO	1. ACAO/ICAO SSP Implementation Workshop planned 23-27 May 2022. *2.* An Event Risk Assessment webinar was delivered on 7 June 2021organised by ICAO MID Office. *(completed)*	2022 **Completed** **Included in the Second MID-RASP Edition**
		A3- Provide SSP/SMS Workshops for MID States personnel	ICAO and ACAO	1. SSP Workshop conducted in Kuwait in March 20. *2.* SMS implementation training online course jointly with Singapore CAAS 7-11 Feb 2022. *(completed)*	2022 **Completed** **Included in the Second MID-RASP Edition**
		A4- Develop guidance material/share best practices on occurrence reporting for the CAA personnel on establishing an effective operation of the mandatory and voluntary reporting systems	States (UAE)	WP and GM will be presented by UAE during this meeting. *(completed)*	2022 **Completed**
		A5- Support and guide States in the	ICAO	1. ICAO organized series of RASP	2022

		development of NASPs through Workshops and sharing of best practices		webinars: - MID-RASP Webinar conducted by ICAO on 25 May 2021. 2. ICAO organized series of Webinars related to GASP/NASP: - 16 March 2021: ICAO's Global Safety Strategy: the Global Aviation Safety Plan. - 30 March 2021: Introduction to the National Aviation Safety Plan. - 13 April 2021: Using the Roadmap to Develop a National Aviation Safety Plan. 3. SSP workshop conducted in Morocco including NASP 4. Regional NASP Workshop Cairo	**Completed** **Included in the Second MID-RASP Edition**
		A6- Development of guidance/share best practices for the processes and procedures for oversight of SMS	States (UAE)	WP and GM will be presented by UAE during this meeting. (completed)	2022 **Completed**
		A7- Deployment of the Aviation Safety Risk Management iPack	ICAO	Completion of ASRM iPACK related to COVID-19 project with PACA Oman and conducted the closing meeting on 4 May 2021. *(Completed)*	2020 **Completed**
		A8- Conduct assistance missions by SMIT to support States with SSP implementation	SMIT.	SMIT Handbook endorsed by RASG-MID/9. *(Completed)*	2022 **Completed** **Included in the Second MID-RASP Edition**

Goal 6: Increase Collaboration at the Regional Level to Enhance Safety					
	To be developed in the future				
Regional Operational Safety Risks					
Goal 1: Achieve a Continuous Reduction in Operational Risks					
G1-SEI-01:	Aircraft upset in flight (LOC-I)	**A1-** Guidance material on flight crew proficiency	IATA and Aircraft manufacturers	IATA will provide the tentative dates on Jan 2022 or Q1 2022	2022 **Included in the Second MID-RASP Edition**
		A2- Advisory Circular: Mode Awareness and Energy State Management Aspects of Flight Deck Automation	IATA and Aircraft manufacturers.	IATA will provide the tentative dates on January 2022 or Q1 2022	2022 **Included in the Second MID-RASP Edition**
		A3- Conduct Upset Recovery Workshop/webinar	ICAO, KSA, and FAA	ICAO, KSA, and FAA UPRT conducted in February 2020.	2022. **Included in the Second MID-RASP Edition**
		A4- Develop guidance material/share best practices on Ground Handling Service Provider Certification Process	IATA and KSA	Reviewed by ASPIG meeting and be presented to RASG-MID/10 for endorsement by RASG-MID/10. (completed)	2022. **Completed**
		A5- Conduct a Ground Handling Workshop	ACAO and ICAO. Supported by FAA	Ground handling Workshop back to back with Dangerous Goods Workshop planned to be held in Joint event ACAO/ICAO	2022 **Completed** To be conducted 12-15 December 2022 in Rabat
G1-SEI-02:	Runway Safety- Runway Excursion	**A1-** Support States to implement the Global Reporting Format (GRF) Methodology through Webinar/ Workshops/Training	ICAO and ACI. s	**05** virtual GRF Training classrooms conducted for the MID Region States/Airport Operators.	2022 **Completed** **Included in the Second MID-**

					RASP Edition
		A2- Guidance material on un-Stabilized Approach	IATA.	GM on UA shared by IATA. Circulated to States. *(Completed)*	2022 **Completed**
		A3- MID Region Action Plan/Milestones on the Global Reporting Format (GRF) Implementation.	ICAO	Completed and submitted for the States.	2022 **Completed** **Included in the Second MID-RASP Edition**
G1-SEI-03:	Runway Safety- Runway Incursion	**A1-** Support States to implement aerodrome inspection through Workshops/Trainings/Webinars.	ICAO. Supported by FAA and UAE	Postponed for 2023	2022 **Included in the Second MID-RASP Edition**
G1-SEI-4:	Controlled Flight into Terrain (CFIT)	**A1-** Advisory Circular: Guidance for Operators to Ensure Effectiveness of GPWS Equipment.	IATA and Aircraft manufacturers	Draft to be presented to SEIG/4 for review. *(Completed)*	2022 **Completed**
		A2- Advisory Circular: Instrument Approach Procedures Using Continuous Descent Final Approach Techniques.	IATA and Aircraft manufacturers	IATA will provide the tentative dates on January 2022 or Q1 2022	2022 **Included in the Second MID-RASP Edition**
		A3- Circulate ICAO Guidance Doc 10000 on Flight Data Analysis Programme (FDAP) to support States providing oversight to air operators	ICAO	SL on ICAO Guidance Doc 10000 circulated by ICAO during July 2021. *(Completed)*	2022 **Completed**
		A4- Advisory Circular: Crew Resource Management Training Programme (CRM)	IATA, Aircraft manufacturers	IATA will provide the tentative dates on Jan 2022 or Q1 2022	2022 **Included in the Second MID-RASP Edition**
G1-SEI-	Loss of separation between	**A1-** States and regional organizations to	ICAO. Supported by	NMACs analysis to be provided by	2022

05A1:	civil and military aircraft"	share occurrences and/or safety analysis/information related to Near Mid Air Collisions (NMACs) including to the "Loss of separation between civil and military aircraft" and ATM-SG to perform a technical analysis of the reported occurrences and and/or safety analysis/information and then come out with recommendations. The technical analysis of the reported occurrences and recommendations be shared with ASRG.	IATA, CANSO, and States	IATA to the ATM-SG for technical review and then the ATM-SG to provide recommendations for the next course of actions. The subject was also presented to the ATM SG/7 to raise awareness and urge the States and ORGs to share occurrences or safety analysis/information related to NMACs to enable the ATM SG to perform the technical analysis.	**Proposed to be deleted**
		A2: Guidance/raising awareness/ coordination related to the civil and military cooperation in particular over high seas.	ACAO and ICAO. Supported by States	Workshop planned to be 10 – 13 October 2022. Postponed for 2023	2022 **Included in the Second MID-RASP Edition**

G1-SEI-05A2:	Interference to GNSS Signals	**A1**: GNSS/GPS Interferences	ICAO and IATA	1. RSA developed and circulated in 2020 2. Safety Data analysis provided by IATA and included in the 11th MID ASR. *(Completed)*	2022 **Completed** **Included in the Second MID-RASP Edition**
G1-SEI-05B:	Ensure the Safe Operations of UAS (drones)	**A1**- Circulate ICAO developed guidance and advisory circulars: Regulatory framework for the operation of drones to support states' CAA personnel in the implementation and oversight of UAS operations	ICAO	SL issued on the subject by ICAO MID office July 2021. *(Completed)*	2021 **Completed**
		A2- Organize symposium on Drones related subjects	ICAO, ACAO. Supported FAA	An ACAO-DfT-TSA Joint Virtual Workshop on Drones has been conducted the 9 & 10 Nov 21 with the attendance of more than 100 participants from 14 Arab States, 5 Regional Organizations and industry stakeholders. The symposium is postponed for 2023	2022 **Included in the Second MID-RASP Edition**
		A3- States and Regional Organizations to share occurrences and/or safety analysis/information involving drones to ASRG to perform a technical analysis of the reported occurrences and come out with recommendations.	ICAO, IATA, ACI, CANSO, and States (TBD)	IATA to provide safety information and safety analysis if available.	2022 **Proposed to be deleted**

APPENDIX B

RASG-MID SAFETY ADVISORY – 16

(RSA-16)

13 July 2022

MID-Region

Guidance Material on Measures to Improve the Effectiveness Of Enhanced Ground Proximity Warning System (EGPWS)/Terrain Awareness And Warning System (TAWS)

Date of Issue:	July 2022
Revision No:	First Edition – July 2022
Document Ref. No.:	RSA-16

Owner:	RASG-MID

These guidelines are developed by the Safety Enhancement Implementation Group (SEIG), as part of Middle East Regional Aviation Safety Plan (MID-RASP) 2020-2022 Edition Safety Enhancement Initiatives (Ref: G1-SEI-01: A1) developed by IATA in coordination with ICAO MID Regional Office and the Regional Aviation Safety Group - Middle East (RASG-MID).

Disclaimer

This document has been compiled by the MID Region civil aviation stakeholders to mitigate the operational impact of the Controlled Flight Into Terrain (CFIT) by providing guidance for civil aviation regulators and aircraft operators on actions that could be taken by stakeholders to reduce the likelihood of false warnings of Enhanced Ground Proximity Warning System (EGPWS) /Terrain Awareness And Warning System (TAWS) or, more seriously, the system's failure to provide a timely warning. It is not intended to supersede or replace existing materials produced by the National Regulator or in ICAO SARPs. The distribution or publication of this document does not prejudice the National Regulator's ability to enforce existing National regulations. To the extent of any inconsistency between this document and the National/International regulations, standards, recommendations or advisory publications, the content of the National/International regulations, standards, recommendations and advisory publications shall prevail**.**

TABLE OF CONTENTS

Measures to Improve the Effectiveness of Enhanced Ground Proximity Warning System (EGPWS)/ Terrain Awareness and Warning System (TAWS)

1. BACKGROUND

1.1 A controlled flight into terrain (CFIT) accident occurs when an airworthy aircraft under the control of the flight crew is flown unintentionally into terrain, obstacles, or water, usually with no awareness of the impending collision on the part of the crew.

1.2 ICAO's first action in this regard can be traced to 1978, when requirements for equipping commercial air transport aircraft with GPWS were introduced into Annex 6 Part I International Commercial Air Transport - Aeroplanes. This led to a significant decrease in the number of CFIT occurrences, but not to their complete elimination. A significant advancement in technology was achieved with the development of GPWS with a forward-looking terrain avoidance function, generally referred to as Enhanced Ground Proximity Warning System (EGPWS) and known also as Terrain Awareness and Warning System (TAWS).

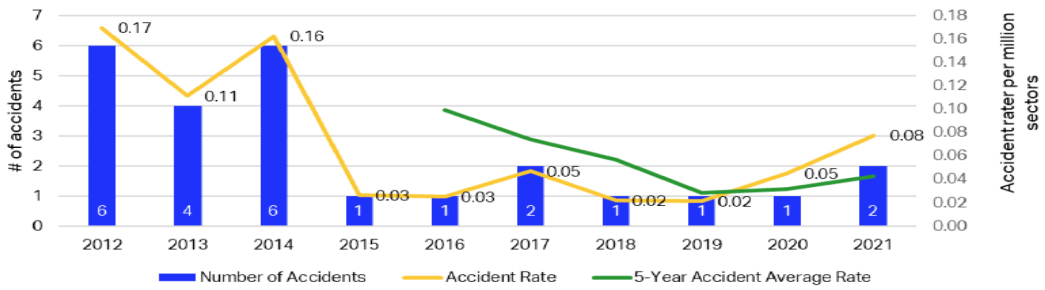
1.3 With the advent of EGPWS/ TAWS in 1996, there has been a significant reduction in the frequency of CFIT accidents. ICAO subsequently required that aircraft be equipped with this equipment and Annex 6 Part I currently requires all turbine-engine aero planes of a maximum certificated take-off mass more than 5 700 kg or authorized to carry more than nine passengers, to be equipped with a ground proximity warning system which has a forward-looking terrain avoidance function.

1.4 ICAO requires States to ensure that operators have procedures in place to ensure the integrity electronic navigation data products and that the operator continues to monitor both process and products. While EGPWS/TAWS data base would not be utilized for navigation purposes, it would be considered important to ensure that the equipment is functioning with the latest software and data base available.

1.5 There are several factors that can reduce the effectiveness of enhanced ground proximity warning system (EGPWS) equipment. Several measures can be taken by stakeholders to reduce the likelihood of false EGPWS warnings or, more seriously still, the system's failure to provide a timely warning.

2. ANALYSIS

2.1 CFIT is the second cause of fatal accidents. The industry has been working to reduce the CFIT accidents and during the last decade, the accident rate has fallen from **0.17 per million sectors in 2012 to 0.08 per million sectors in 2021**. Thanks to improvements in training, standards, technology, policies, and SOPs.



2.2 In 2019, IATA and Honeywell produced guidance on performance assessment of pilot compliance to EGPWS. In our continuing effort to ensure the applicability and quality of the published Guidance Material, together with Honeywell conducted a survey to investigate the barriers and enablers in the implementation of such guidance.

2.3 The shortcoming identified involves the software utilized by EGPWS/TAWS. Software updates are issued regularly, yet industry sources reveal these are not always being implemented by all operators or are not installed in a timely manner.

2.4 Application of software updates improves the characteristics of the equipment. Such improvements are possible based on operational experience and enable earlier warnings in situations that occur closer to the runway threshold where previously it was not possible to provide such warnings. Similarly, it is important to regularly update the obstacle, runway and terrain database provided by manufactures for use with their equipment.

2.5 EGPWS/TAWS equipment was designed to function with a position update system, but not all installations are linked to Global Navigation Satellite System (GNSS) receivers. While the required position data can be acquired by using an effective ground-based navaid network, such support for area navigation systems is not available everywhere. Use of GNSS eliminates the possibility of position.

3. RECOMMENDED ACTION

A number of recommendations are listed below to aid in CFIT risk reduction.

3.1 *Recommendations to Operators*:

3.1.1 *EGPWS* Software & Terrain Database are kept up to date:

- Operators should have a policy in place or a program of continuous maintenance that periodically checks the system operation, updates the runway, terrain and obstacle databases and EGPWS software to the latest available.

- Guidance to airline's Technical Operations dept. (Engineering & Maintenance) should emphasize the safety benefit that can be obtained by keeping the EGPWS software / terrain database up to date.

3.1.2 Operators should encourage the use of GNSS/GPS as a position source for the EGPWS.

3.1.3 Operators should publish a clear SOP for the use of terrain awareness display during critical phases of flight.

3.1.4 Train flight crews to respond immediately to a hard Enhanced Ground Proximity Warning System (EGPWS) warning, and respect and respond to EGPWS soft warnings. Use simulators to show their crews exactly how close terrain is when the EGPWS warning occurs to reinforce the need for an immediate response to the warning to avoid the terrain.

3.1.5 Encourage operators to use FDM or FOQA data to monitor proper responses by flight crew to EGPWS events and reinforce a policy of go-around from an unstable approach.

3.1.6 Operators are encouraged to have procedures in place to ensure that EGPWS equipment always remains activated and serviceable.

3.1.7 Operators are encouraged to report GPS interference or any disruption of radio altimeter operation to the appropriate national authorities, with a copy to faqirj@iata.org.

3.1.8 Operators to create awareness of the impact of GPS jamming or radio altimeter anomalies on aviation safety.

3.2 *Recommendations to States & Regulators*:

3.2.1 EGPWS Software & Terrain Database are kept up to date:

- ensure the navigation references are updated in accordance with WGS-84;
- ensure air operators have procedures in place to ensure that EGPWS/TAWS software and data bases (including obstacle, runway and terrain databases) are updated to the latest available standard; and
- ensure that air operators maintain and monitor the provision of most accurate positioning information to the EGPWS/TAWS system (e.g., encourage the broader use of GNSS input linked to EGPWS.

3.2.2 Terrain Display during Critical Phases of Flight Policy:

- to check if the terrain display SOP is implemented by operators.

3.2.3 Training for Flight Crew to respond to EGPWS Alerts:

- to check if the EGPWS training is performed in compliance with regulations.

APPENDIX A:

Guidance material Performance assessment of pilot response to Enhanced Ground Proximity Warning System (EGPWS)

iata_guidance_performance_assessmen

APPENDIX C

RASG-MID SAFETY ADVISORY – 18

(RSA-18)

7 November 2022

MID-Region

Guidance Material for ICAO Dangerous Good

Date of Issue:	November 2022
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Owner:	RASG-MID

These guidelines are developed by the Safety Enhancement Implementation Group (SEIG), as part of Middle East Regional Aviation Safety Plan (MID-RASP) 2020-2022 Edition Safety Enhancement Initiatives (Ref: G2-SEI-04: A2) based on the work of Kingdom of Bahrain and the Sultanate of Oman in coordination with ICAO MID Regional Office and the Regional Aviation Safety Group - Middle East (RASG-MID).

Disclaimer

This document is intended to provide guidance for civil aviation authorities in order to support States inspectors to conduct oversight to ensure safe transport of dangerous goods by air.
This document has been compiled by members of the aviation industry to enhance aviation safety at the regional level. It is not intended to supersede or replace existing materials produced by the State or in ICAO SARPs. The distribution or publication of this document does not prejudice the State's ability to enforce existing National regulations. To the extent of any inconsistency between this document and the National/International regulations, standards, recommendations or advisory publications, the content of the National/International regulations, standards, recommendations and advisory publications should prevail.

TABLE OF CONTENTS

1. GENERAL

1.1 Mandatory

1.1.1 In Pursuance to standards and as necessary by ICAO Annex 18 to the Chicago Convention, each Contracting State shall establish inspection, surveillance and enforcement procedures with a view to achieving compliance with its safe transport of dangerous goods by air regulatory regime. The relevant standards from Annex 18 designed to help the implementation of the air transport of dangerous goods inspection programme and to promote the Inspector's uniform understanding.

1.1.2 The SSP is an integrated set of regulations and activities aimed at improving safety, which includes the critical elements (CEs) of State Safety Oversight (SSO) system and the SSP components. These responsibilities have been integrated in ICAO Annex 19-Safety Management and referred as the State's Safety Management (SM) responsibilities. The aim of the SSP is to combine elements of both prescriptive and performance-based approaches towards management of safety. It is important to implement an SSP in conjunction with the implementation of a Safety Management System (SMS) by service providers. Using SM principles, the relationship between a State and its aviation organization should evolve beyond compliance and enforcement, to a partnership aimed at maintaining or continuously improving safety performance. Therefore, states in order to implement ICAO requirements documented in Annexes 1, 6, 8, 13, 18 and 19 and associated Documents (Doc 9284, Doc 9859, Doc 10102, Doc 9841, Doc 10121, Doc 10147) in the management of Air Cargo Management System including Dangerous Goods aiming to strengthen the oversight process.

1.1.3 Guidance is offered to assist primarily in the inspection of aircraft operators, handling agents and training providers, it further recognises that in some states it is mandatory to conduct inspections on freight forwarding agents and or shippers. This Working Paper outlines the procedures the Dangerous Goods Inspector should follow in conducting his/her duties.

2. DEFINITIONS AND ACRONYMS

2.1 Definitions

2.1.1 The ICAO Annex 18 to the Convention on International Civil Aviation "The Safe Transport of Dangerous Goods by air" and the International Civil Aviation Organisation 'Technical Instructions for the Safe Transport of Dangerous Goods by Air" (ICAO TI's) definitions apply.

2.2 Acronyms

a. "CBTA" means Competency Based Training and Assessment
b. "DGI" means Dangerous Goods Inspector
c. "ERAP" means Emergency Response Assistance Plan
d. "FDG" to be used in Annexes means Finding
e. "IAEA" means the International Atomic Energy Agency
f. "IATA" means International Air Transport Association
g. "ICAO TI" means the current edition of the International Civil Aviation Organisation Technical Instruction for the Safe Transport of Dangerous Goods by Air
h. "MSDS" means Material Safety Data Sheet
i. "UN" means United Nations

3. LEGISLATION

3.1 International Regulation

3.1.1 International Civil Aviation Organisation Annex 18 to the Chicago Convention was developed to respond to a demand by Contracting States for an internationally agreed upon set of provisions addressing the safe transport of dangerous goods by air.

3.1.2 The International Civil Aviation Organisation Technical Instructions for the Safe transport of Dangerous Goods by Air contain the detailed technical information needed to support the broad application of provisions of Annex 18 providing a fully comprehensive set of international regulations.

3.1.3 The Supplement to the Technical Instructions for the Safe Transport of Dangerous Goods by Air provides information that is primarily of interest to States. Certain dangerous goods, which are normally forbidden (identified in Table 3-1 of the ICAO TI by Special Provision A-1, A-2 or A-109), may be specifically authorised for air transport by approval of the appropriate national authority.

3.1.4 The Supplement to the TI provides information to State for the processing of approvals or exemptions. States are encouraged to refer to ICAO Annex 6 Operation of Aircraft, Annex 19 Safety Management, Guidance for Safe Operations Involving Aeroplane Cargo Compartments (Doc 10102), Guidance on a Competency-based Approach to Dangerous Goods Training and Assessment (Doc 10147).

3.2 National Regulations [SSP Component 1 (State safety Policy, objectives and resources addressing CE 1 Primary aviation legislation, CE 2 specific Operating regulations)]

3.2.1 ICAO Annex 18 Standards and Recommended Practices for the Safe Transport of Dangerous Goods by air must be established in the state's legislative framework of the civil aviation industry. The law shall have relevant articles or clauses under the relevant law substantiating the enactment and giving powers to the Appropriate National Authority/Competent Authority to establish, maintain, develop and implement such regulations in line with the technical documents mentioned above.

4. DANGEROUS GOODS INSPECTOR CONDUCT AND RESPONSIBILITIES

4.1 Dangerous Goods Inspector Conduct

4.1.1 At all times, Inspectors must act in such a manner that speaks well of the Appropriate National Authority and its Inspectors. Every official or company shall be dealt with in an equitable manner. Advice and guidance are frequently sought and must be readily provided in such a manner that public safety and the authority are not compromised.

4.2 Dangerous Goods Inspector Responsibilities

4.2.1 The Dangerous Goods Inspector is assigned the following responsibilities:

a) Inspection and certification to ensure training and competence of:

   I. Freight forwarding agencies based in the state that receive and process dangerous goods for transport by air;
   II. Ground Handling Agents acting for Operators that transport dangerous goods by air;
   III. Approved Training Organisations/schools that conduct dangerous goods acceptance courses, initial and recurrent; and
   IV. Operators registered/based in the state that are involved in the transport of DG.

b) Approval of DG packing materials suppliers.
c) Audit of foreign operators to ensure compliance with state legislation.
d) Investigation of dangerous goods incidents and accidents.
e) Recommendation for the grant of exemption for the transport of forbidden dangerous goods.
f) Other duties as directed by the Appropriate National Authority.

4.3 Dangerous Goods Inspector Training and Qualifications (this section also addresses the CE 4 Qualified technical personnel)

4.3.1 The dangerous goods inspector applicant should have relevant experience in commercial air transport operations involving dangerous goods based on a competency framework. Dangerous Goods Inspector shall be "qualified" and "current" to perform the task to which they are assigned based on a competency framework:

a) Minimum professional qualifications shall be established and implemented for each technical position performing safety oversight functions.
b) Dangerous Goods Inspector is provided with the technical and administrative training necessary for them to effectively fulfil their safety oversight responsibilities.
c) Dangerous Goods Inspector is provided the opportunity to continually develop their knowledge and skills related to their respective responsibilities.
d) Dangerous Goods Inspector is provided with the resources required to undertake necessary training.
e) This includes but is not limited to financial resources.
f) The necessary training shall include:
    I. Initial training;
    II. Recurrent training;
    III. On Job Training (OJT) and;
    IV. Specialized and Recommended training
g) Any determination of the "qualifications" of the Dangerous Goods Inspector shall be based on an assessment of his experience, formal training, OJT or evidence that the task has direct positive transfer of methodology from similar or related tasks. The previous training or experience shall be assessed by the senior Dangerous Goods Inspector/Flight Safety Director.
h) Dangerous Goods Inspector shall be current and qualified in accordance with the documented CAA and ICAO requirements. Legality is established by assessing whether the previous experience and recency meet the documented CAA requirements.
i) Recurrent training, also known as refresher or periodic training, covers and reviews elements of the initial training programme and should be scheduled over a cycle of not more than 5-years and depends on the periodicity of the training.

4.3.2 The competency framework for DG inspector should take in consideration the following:

a) Ethics and values
b) Communication
c) Problem solving and decision making
d) Initiative
e) Technical expertise
f) Systems thinking
g) Risk management
h) Leadership and teamwork
i) Critical thinking

5. DANGEROUS GOODS AUDITS AND INSPECTIONS [SSP component 2 state safety risk management and SSP component 3 State Safety assurance (CE 6 Licensing certification, authorization, and/or approval obligations, CE 7 Surveillance Obligations and CE 8 Resolution of safety issues)]

5.1 Oversight Aims

5.1.1 As required by Annex 18 to the Chicago Convention, each contracting State shall establish inspection procedures with a view to achieving compliance with its dangerous goods regulations.

5.1.2 The aim of the inspection is to assess the suitability of the organisation and procedures established by the operator and of the facilities provided for the handling of dangerous goods, taking into account the nature and scale of the operation. If the operator uses a handling agent, the liaison between them needs to be checked to confirm that each knows what is expected of them by the other.

5.1.3 The establishment of inspection procedures will ensure that dangerous goods are transported safely without placing an aircraft or its occupants at risk.

5.2 Annual Surveillance Programme (ASP) and Reporting Procedures

5.2.1 The designated Lead/Senior Inspector or the entity within the Appropriate National Authority's organisation should prepare an Annual Surveillance Programme (ASP) and the DG Inspectors shall carry out the surveillance audits as per the ASP.

5.3 Surveillance

5.3.1 Surveillance is a planned inspection of an approved facility or part thereof, carried out at regular intervals by the Dangerous Goods entity, to ensure adherence to the laid down requirements by approved organizations for continued approval from Appropriate National Authority. The planned inspections should include station facility, base facility and operator's manuals. Guidance material with Checklists/Forms to be used by Dangerous Goods Inspectors while carrying out the surveillance of operators should be prepared aligning the objectives with Appropriate National Authority and is available in ICAO TI Doc 9284 Supplement. Refer to Annex B as a sample checklist.

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5.4 Oversight Methodology

5.4.1 The oversight will be based on the continuous analysis of data collected under the audit and inspection activities. A risk-based approach will be applied to help with the selection and prioritization of quality-related activities, as well as for any other related decision-making needs.

5.4.2 The oversight activities will use historical data or will continue to collect current data to establish benchmarks for the purpose of determining the risk profile of the individual or entity to be audited. This data will be recorded within the Operator's Risk Assessment File such that an accurate record of findings and subsequent mitigation action applied has reduced or eliminated the recognised finding for each certified operator. This risk profile will be used to decide whether any additional oversight activity is to be performed, and its frequency. States may consider the frequency of incidents and the involvement therein.

5.4.3 In addition to audit performance oversight activities, Appropriate National Authority may conduct spot checks (or any other effective means of gathering feedback) to determine stakeholder expectations, levels of satisfaction, and identify ways to improve oversight overall.

5.5 Surveillance Audit Checklist

5.5.1 Dangerous Goods entity shall design and develop Surveillance Audit Checklists for certified operators concerning the acceptance and carriage of Dangerous Goods including those not certified for the carriage of Dangerous Goods as specified in Annex 18, ICAO Technical Instructions and Supplement, IATA Dangerous Goods Regulations. The Surveillance Audit shall be carried out in

line with the checklist and any findings, other than issues not detailed in the checklist shall be treated and reported as 'observations' in the Audit Report.

5.5.2 The surveillance must consist of the below mentioned points:

a) Inspector shall ensure that the operator has established the required manuals detailing the procedures required for the carriage of dangerous goods by air.
b) An operator has developed and uses acceptance checklist as an aid to be in compliance with ICAO TI/IATA DGR Manual.
c) Loading and stowage of Dangerous Goods on an aircraft is in accordance with the provisions of TI/IATA DGR Manual.
d) Marking, Package, overpack or ULD (Unit Load Device) containing Dangerous Goods shall be inspected for evidence of leakage or damage before being loaded on an aircraft.
e) Damaged ULDs shall not be loaded on aircraft.
f) Loading restrictions inside passenger cabin or on flight deck is in compliance with TI/IATA DGR manual.
g) Separation and segregation of Dangerous Goods is in compliance with TI/IATA DGR manual.
h) Inspector shall ensure that the operator has ensured a structured provision of information regarding Notification to the pilot-in-command (NOTOC).
i) Inspector shall ensure that the operator has defined the provision of information in the event of an aircraft accident/incident.
j) Operators must secure dangerous goods cargo loads and protect the same from being damaged.
k) Loading of radioactive Materials should be in compliance with TI/IATA DGR Manual.
l) Packages of Dangerous Goods bearing "Cargo Aircraft Only" label shall be loaded in accordance with the provisions in the TI/IATA DGR manual.
m) The operator/shipper must retain a copy of the Dangerous Goods transport document and additional documentation as specified in TI/IATA DGR manual.
n) Inspector must verify the handling responsibilities if operator is availing services of external handling company.
o) In case if the operator is availing services from subcontractor, it must verify the appropriate documents and operational manuals are provided to the same.
p) Inspector must ensure that there is an inspection planned for authorized, non-authorized, national and foreign operators.
q) Inspector must ensure that the passengers are warned as to the types of dangerous goods that they are prohibited or restricted from transporting aboard an aircraft.
r) In case of radioactive shipments Air Operators/ Airport Operators/ Ground Handling Agencies shall ensure that these shipments are stored only in the area designated area

5.6 Inspection Procedures

5.6.1 Inspections are carried out at cargo facilities, on the apron, in passenger terminals and, occasionally, other places such as security checkpoints, shippers, freight forwarders, packaging manufacturers, at a frequency commensurate with the scale and nature of the operation. In addition, audit of procedure(s) includes visiting operator's or handling agent's premises, as appropriate.

5.7 Frequency of Inspections

5.7.1 The Technical Instructions does not specify the frequency of such inspections. However, the "Manual of Procedures for Operations Inspection, Certification and Continued Surveillance" (Doc 8335), produced by ICAO, recommends that all significant aspects of the operator's procedures and practices should be inspected at least once every twelve-month period. Consequently, states should consider inspecting all aspects related to dangerous goods of an operator engaged in the carriage of dangerous goods as cargo on an annual basis, as a minimum. Operators choosing not to

transport dangerous goods as cargo may be inspected at a less frequent rate. A judicious application of management of safety risks should be considered.

5.8 How to Plan an Inspection

5.8.1 Before an inspection is started, all information concerning the operator's procedures shall be inspected.

a) Pre-Inspection: Examine all relevant operator information such as:
   I. Operator file, or
   II. Certification file (AOC)
   III. Operator Manuals
   IV. Occurrence report/s
   V. Previous inspection records
   VI. State Approvals
   VII. Referral materials
   VIII. Any other relevant carrier/company information available

b) Site Inspection: When an inspection is scheduled, adequate notice should be given to advise the operator /handling agent and arrangements made for access to relevant areas. On some occasions, the inspection may be carried out without giving prior notice. However, this may not always be practicable or desirable.

c) On arrival:
   I. Inspector should introduce self to the representative of the inspected organisation and or provide a business card or show credentials, as appropriate;
   II. State purpose of inspection and request name of appropriate person to contact;
   III. Explain to appropriate person in-charge, reason for inspection and general inspection process;
   IV. Ensure safety equipment meets carrier/company requirements;
   V. Arrange for accompaniment of person in charge.

5.9 Results of Inspections (Including Safety Risk Assessment)

5.9.1 The results of a dangerous goods inspection are recorded so as to produce a record of what was seen and noted at the time. The record must be sufficiently comprehensive to identify any deficiencies, since these will need to be identified in a request to the operator to take action to remedy them. The request to the operator should include a time scale for taking remedial action (refer Annex A). If during an inspection an Inspector discovers a violation, his response will be determined by various factors which will warrant different courses of action.

5.10 **Safety** ***risk assessment and hazard identification to transport Cargo, including Dangerous Goods in the cargo compartment***

5.10.1 The Dangerous Goods Inspector shall ensure that the operator carrying or not carrying Dangerous Goods (any Cargo) establishes policies and procedures for the transport of items in the cargo compartment, which include the conduct of a specific safety risk assessment. This risk assessment is part of the initial/renewal certification requirements. The risk assessment shall include at least the following:

a) hazards associated with the properties of the items to be transported;
b) capabilities of the operator;
c) operational considerations (e.g. area of operations, diversion time);
d) capabilities of the aeroplane and its systems (e.g. cargo compartment fire suppression capabilities);
e) containment characteristics of unit load devices;
f) packing and packaging;

g) safety of the supply chain for items to be transported; and
h) quantity and distribution of dangerous goods items to be transported

5.10.2 The CAA inspector shall ensure that the risk assessment provided by the Air operator is covering the above-mentioned items during the evaluation as well as the following:

a) Clear understanding of hazards and their related consequences;
b) Identification of hazards exist at all levels in the organization and for specified item transported;
c) Consideration should be taken to the class of Dangerous Goods frequently transported;
d) Special consideration to lithium batteries, undeclared dangerous Goods and COMAT;
e) Consequences of the hazards identified: smokes, fumes, fire;
f) Fire class attached to the type of fire in relation to the materials that are involved;
g) Source of fuel and potential ignition sources such as Lithium batteries;
h) Heat or ignition source, oxygen or oxidizing agent to be considered;
i) The subsequent consequences of the fire must also be considered in the risk mitigation process.

Note: ICAO DOC 10102 provides additional guidelines in this context

6. ESTABLISHMENT OF DANGEROUS GOODS TRAINING PROGRAMME (CE 6 Licensing certification, authorization, and/or approval obligations, CE 7 Surveillance Obligations)

6.1 Introduction

6.1.1 A training programme includes elements such as design methodology, assessment, initial and recurrent training, instructor qualifications and competencies, training records and evaluation of the effectiveness of training.

6.1.2 The employer must establish and maintain a Dangerous Goods training programme for personnel performing any function described in the state's Guidance material to the aviation industry of the state.

6.1.3 The employer must establish and maintain a Dangerous Goods training programme for personnel who may not perform any function described in this WP but do perform functions related to the movement of cargo, baggage, passengers or mail. The aim of the programme is to ensure personnel are competent to perform functions aimed at preventing undeclared Dangerous Goods are not permitted from being carried on an aircraft.

Note: Security personnel who are involved with the screening of passengers and crew and their baggage and cargo or mail are required to be trained irrespective of whether the operator on which the passenger or cargo is to be transported carries dangerous goods as cargo.

6.1.4 All operators must establish a Dangerous Goods training programme regardless of whether or not they are approved to transport Dangerous Goods as cargo.

6.1.5 Training courses may be developed and delivered by or on behalf of the employer.

7. OBJECTIVE OF DANGEROUS GOODS TRAINING

7.1 Training as *per need*

7.1.1 The employer must ensure that personnel are competent to perform any function for which they are responsible prior to performing any of these functions. This must be achieved through

training and assessment commensurate with the functions for which they are responsible. Such training must include:

a) General awareness/familiarization training — Personnel must be trained to be familiar with the general provisions;
b) Function-specific training-Personnel must be trained to perform competently any function for which they are responsible; and
c) Safety training — Personnel must be trained on how to recognize the hazards presented by dangerous goods, on the safe handling of dangerous goods, and on emergency response procedures.

7.1.2 Personnel who have received training but have been assigned to new functions must be assessed to determine their competence in respect of their new activity. If competency is not demonstrated, appropriate additional training must be provided.

7.1.3 Personnel must be trained to recognize the hazards presented by Dangerous Goods, to safely handle them and to apply appropriate emergency response procedures as per ERM.

7.1.4 Upon successful completion of the dangerous goods training, a person shall be able to:

a) Fully understand and differentiate between shipper's and operator's responsibilities;
b) identify all dangerous goods which are:
c) forbidden for air transport; or
d) permitted as cargo in accordance with the Technical Instructions; or
e) excepted from the requirements of the Technical Instructions.
f) identify the nine classes of dangerous goods by their principal criteria;
g) extract the relevant information from the List of Dangerous Goods and apply it;
h) comprehend and apply the packing instructions;
i) properly mark and label a dangerous goods package and verify that the marking or labelling requirements have been met;
j) complete a dangerous goods transport document and verify that the information provided thereon complies with the Technical Instructions.
k) using an acceptance checklist, correctly accept or reject a shipment;
l) comprehend and apply the separation and segregation requirements;
m) comply with the requirements for providing the pilot-in-command
n) with the pertinent information on the dangerous goods on board the aircraft;
o) recognize and apply the appropriate State and/or Operator variations; and
p) apply relevant customized emergency procedures as per ERM.

7.2 Recurrent Training and Assessment

7.2.1 Personnel must receive recurrent training and assessment within 24 months of previous training and assessment to ensure that competency has been maintained. However, if recurrent training and assessment is completed within the final three months of validity of the previous training and assessment, the period of validity extends from the month on which the recurrent training and assessment was completed until twenty-four (24) months from the expiry month of that previous training and assessment.

Note: An example would be the following: If recurrent training is required by the end of May 2023, then any training occurring between March 2023 and the end of May 2023 will result in a new recurrent training date of May 2025.

7.3 Training and *Assessment Record*

7.3.1 The employer must maintain a record of training and assessment for personnel.
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7.3.2 The record of training and assessment must include:

a) Name of the individual;
b) The month of completion of the most recent training and assessment;
c) A description, copy or reference to training and assessment materials used to meet the training and assessment requirements;
d) The name and address of the organization providing the training and assessment; and
e) Evidence which shows that the personnel have been assessed as competent.

7.3.3 Training and assessment records must be retained by the employer for a minimum period of thirty-six (36) months from the most recent training and assessment completion month and must be made available upon request to personnel or the Appropriate National Authority's inspectors.

7.3.4 The training records for the CBTA approach shall be as per state regulations.

7.4 Approval of Training Programmes using the CBTA Approach

7.4.1 Dangerous Goods training programmes for operators shall be approved by the Appropriate National Authority in accordance with the Civil Aviation regulations.

7.4.2 Training providers are certified as per state regulations.

7.4.3 A safe and efficient air transport system is dependent upon a competent workforce. ICAO has recognized that this can be achieved through the implementation of a competency-based approach to training and assessment. The Technical Instructions for the Safe Transport of Dangerous Goods by Air (ICAO Doc 9284, "Technical Instructions") require that employers ensure personnel are competent to perform any function for which they are responsible prior to performing it. A competency-based approach to training and assessment is an effective way to ensure this requirement is met;

7.4.4 The applicable regulation/s of the state shall require operators involved in the transport of Dangerous Goods to train their employees using the competency-based training and assessment approach prior the mandated date 1st January 2023;

7.4.5 The next section provides guidance in implementing a competency-based approach to dangerous goods training and assessment for personnel involved in the transport of cargo, mail, passengers and baggage by air.

7.4.6 The Appropriate National Authority may utilise the Attachment B of Part S-7 of Chapter 8 of ICAO TI (Doc 9284) Supplement as a checklist to document and approve DG training programmes.

8. COMPETENCY BASED TRAINING AND ASSESSMENT (CBTA) APPROVAL PROCESS

8.1 Application for Approval

8.1.1 An application to grant an approval for establishment of a Dangerous Goods Training Programme shall be made to the Appropriate National Authority following the road map set in the state regulations as established/amended.

8.1.2 The application shall be accompanied by the Dangerous Goods Training Manual or equivalent and shall include, in addition to any other relevant information, the following details:

a) Name of the training organization;
b) Functions of personnel to be trained (as mentioned in this guideline and the Appropriate National Authority provided tool).
c) Particulars of the classroom/virtual/CBT/Online this facilities and training aids;
d) Description of the training materials to be used to meet the training requirements.

e) Names, qualifications and experience of the senior Instructor and other Instructors;
f) Maximum number of participants to be enrolled in a class; and
g) The frequency at which the course is likely to be conducted;

Note: The application form should be published on the Appropriate National Authority's website

8.2 Documentation Evaluation: Dangerous Goods Training Manual or Equivalent

8.2.1 The application form shall be submitted with the supported Documents such as the training manual. The Dangerous Goods Training Manual, (hereinafter Manual) shall, in addition to any other relevant information, contain the following chapters, namely:

a) Introduction
b) State's legal regime on carriage of dangerous goods by air
c) Categories/Functions of personnel to be trained
d) Qualifications and experience of the instructors
e) Course Objective
f) Course Structure/Methodology
g) Course Contents
h) Course Schedule/outline
i) Lesson Plan
j) Assignments/Exercises
k) Model Examination Papers (3 sets)
l) Course Evaluation
m) Specimen Certificate
n) Maintenance of Training Records
o) Instructor Qualification and maintenance

8.2.2 The terms to be used in the Manual shall be in line with those defined in the Technical Instructions and the state Civil Aviation regulations.

8.2.3 A system shall be developed to review and revise the Manual so as to incorporate the amendments, as and when issued, to the provisions of Annex 18 to the Chicago Convention, the Technical Instructions (Doc. 9284 AN/905), the state regulations and the state variation/s (if any), and any other related document. A copy of the Manual so revised shall be submitted to the Appropriate National Authority immediately for concurrence/approval.

Note: The Compliance check list (once established) shall be used by the operators to submit all phases regarding the CBTA.

8.3 Instructor Qualifications and Competencies

8.3.1 To teach effectively, an instructor would need to demonstrate many competencies, and personnel who are nominated/allocated to take up instructing duties should be adequately trained. For competency-based training, the instructors would specifically require:

a) To instruct on the basis of the training plan and associated training materials. The training plan details the structure and order of the training, which is directly linked to the requirements of the assessment plan.

b) To understand the merits of and provide timely and continuous feedback on trainee performance. Feedback is an important component of learning that helps the trainees to progress towards the interim and final competency standards. Feedback may be positive to reinforce desirable performance, or it may be information about how a trainee's performance differs from the standard. Feedback should be supportive and timely, and trainees should finish each session with a clear understanding of what they need to do to progress.

c) To use the adapted competency model to identify the root cause(s) of performance related challenges/lags. The adapted competency model, particularly the performance criteria, helps the instructor to analyse a trainee's performance and identify which competencies have not yet been fully mastered. For example, a trainee is routinely becoming overloaded and as a result starts to make poor control decisions. The instructor could easily begin by focusing exclusively on correcting the poor control decisions, however, with the aid of the adapted competency model, the instructor may consider identifying a wider number of possible performance issues that could be the root cause affecting the trainee's performance, including, but not limited to the following:

I. the trainee's failure to make use of the tools and equipment that increase efficiency;
II. the trainee putting too much focus on the use of the tools and equipment and thereby digressing or not focussing enough upon the situation;
III. the trainee is not fully familiar with the standard procedures and is spending significant amount of time to think and work out the modalities of what to do; and/or
IV. the trainee is not taking appropriate action to ensure that demand does not exceed capacity.

If the instructor in the above example focusses only on correcting the trainee's control actions when in reality the problem is incompetent use of the tools available to increase efficiency, the problem is likely to persist, and very slow progress will be made.

d) To recognize the challenges associated with instructing and diagnosing deficiencies in the cognitive processes, it is not possible to observe what a trainee is thinking, so it is difficult to monitor the development of competencies such as situational awareness, problem-solving and decision-making, etc.

e) At best, the instructor can observe the trainee's performance and infer from the outcomes that the trainee's strategies, problem-solving and planning are effective. However, without any further exploration of the trainee's thinking, it is also possible that the observed outcomes were achieved by chance. To address this challenge, instructors may ask their trainees to explain their control plan prior to carrying it out, their reasons for performing certain actions, or their priorities at a particular moment in time. Of course, the instructor should recognize when it is appropriate to ask these questions and when it would distract the trainees from their tasks.

f) The instructor should also recognize that the questions must be appropriate for the phase of training being conducted, for example, it is unlikely that the questions asked of new trainees who have just started their first training at a unit would be the same as the questions asked of experienced personnel who are undertaking conversion training onto a new system. If it is not possible to ask these questions during the training session, the instructor should save these discussions for the debriefing afterwards. Getting insight into how the trainee is thinking will help the instructor to diagnose if a problem with competencies needs to be addressed.

g) To manage issues related to attitude, it is usually identified in the adapted competency model and elaborated in the evidence guide. Instructors should use the evidence guide to identify attitudinal issues. They should be able to employ the appropriate technique(s) to support trainees in acquiring or adjusting attitudes (e.g. coaching, mental fitness).

8.3.2 Approval of Instructor, the training providers shall submit an application (Application for Training programme approval) a copy of instructor curriculum vitae (CV) and training record with

current Dangerous Goods Regulations certificate in the applicable category commensurate with his/her training delivery along with the training skills certificate.

8.3.3 The approval process shall comprise of the following:

a) **Step 1**: Application and submission of the documentation required;
b) **Step 2**: Evaluation of the application and documentation submitted;
c) **Step 3**: Demonstration by the instructor a lecture under the supervision of the Appropriate National Authority Inspectors or designated personnel;
d) **Step 4**: Issuance of Approval letter/certificate.

8.3.4 The instructor conducting the Dangerous Goods training must have the following qualifications:

a) For all categories of dangerous goods, the instructor must hold current certification in DGR CAT 6 and IATA Professional Skills for Dangerous Goods Instructors training.
b) For Category 6 Instructor, a minimum of five (5) years working experience in Air cargo operations, with a minimum of three (3) years in acceptance, handling and loading of dangerous goods including providing the NOTOC (Notification to the Captain) to the flight crew of an aircraft. Member states can establish their own Instructor qualification criteria based on the national competency matrices.
c) Category 6 Instructor who is not in compliance with requirement under section 8.3.4(b), shall undertake a practical familiarization in acceptance, handling and loading of dangerous goods including providing the NOTOC (Notification to the Captain) to the flight crew of an aircraft under a senior DGR Category 6 DGR instructor and experienced operations staff. The content and duration of the practical familiarization shall be documented and submitted to Appropriate National Authority for approval.
d) Instructors shall demonstrate Dangerous Goods Regulations adequate technical knowledge in the category/job function related to his/her training responsibilities and instructional skills to Appropriate National Authority officials.
e) The dangerous goods instructors shall undergo a simulated or a practical activity every three (3) years in the function related to his/her training responsibilities.

8.3.5 In addition to the above prior to the approval, for conducting the Competency Based Training and Assessment Dangerous Goods Training which shall be in force on 1st January'2023 instructor shall have the following qualifications:

a) Competency based Training Instructors shall demonstrate "advanced" proficiency level related to the functions they are dealing with according to the Level of Proficiency in Terms of Competency Factors;
b) Trainee Dangerous Goods instructor using Competency Based Training and Assessment Dangerous Goods Training shall undergo the following process:
    I. Observation: Observe a course in the same function to be approved for, with a senior instructor;
    II. Interaction: Prepare a course in the same function to be approved for with a senior instructor; and
    III. Lead: Conduct, lead and establish a full training and assessment program for functions to be considered in his qualification.

8.3.6 To maintain their qualification, dangerous goods instructors shall comply with the following:

a) Instructors delivering initial and recurrent dangerous goods training shall at least every 24 months deliver two (2) training courses as a minimum, the training conducted shall be in the function/category in which he has been approved;

b) or in the absence of point mentioned above, attend a recurrent training in the function/category in which the instructor has been approved.

8.3.7 The process determined in accordance with state regulatory mandates (qualification of instructor) shall be documented in the Training manual and subject to approval by the Appropriate National Authority.

8.3.8 Evidence of all the above-mentioned requirements shall be provided.

9. CERTIFICATION OF FREIGHT FORWARDERS & DG AGENTS (CE 6 Licensing certification, authorization, and/or approval obligations, CE 7 Surveillance Obligations)

9.1 Application

9.1.1 Freight Forwarders, acting on behalf of a shipper and located in and operating from the state, shall be certified by the Appropriate National Authority for the handling of dangerous goods.

9.1.2 Ground Handling Agencies, acting on behalf of an operator and located in and operating from the state, shall also be certified by the Appropriate National Authority for the handling of dangerous goods.

Note: The certification process for Freight Forwarders and Ground Handling Agencies may be the responsibility of another entity within the regulatory framework of the state and is included here for ready reference of the Inspector's information only. Should an audit be requested, it shall be conducted by an Inspector from the designated office of the Appropriate National Authority and recommendations for issuance/non-issuance made to the licence issuing entity.

9.1.3 The requirements for the issue of a certificate are as follows:

a) An application to be submitted for DG certification on Appropriate National Authority's Form/process or enclosing copies of current training certificates of at least two staff members and a cheque of payment for the annual fee (if any);
b) Absence of any previous offence which could have led to the revocation of the certificate.
c) Sufficient staff possessing current DG training certificate (ab-initio or biennial refresher) issued by the Appropriate National Authority approved DG training facility.
d) Clearance of any discrepancies identified during an inspection of the agency by the Appropriate National Authority;
e) Unless already procured, the agency must obtain or shall have access to;

I. State Regulations
II. ICAO Technical Instructions for the Transport of Dangerous Goods by Air (current edition); or
III. IATA DG Regulations (current edition).

9.2 *List of* Appropriate *National Authority Certified Agencies*

9.2.1 Freight forwarding and ground handling agencies which meet the certification requirements of this section shall be placed on Appropriate National Authority's Certified DG Agencies List.

9.2.2 Freight forwarding and ground handling agencies which have licence/permission/certification suspended or revoked due to incident/ accident involvement are removed from the listing until investigation is over.

9.2.3 Freight forwarding and ground handling agencies which fail either of the following conditions are removed from the listing until such time they comply with the requirements.

a) maintain the minimum number of required DG trained staff members; or

b) do not renew their DG Acceptance Certificate;

9.2.4 The Appropriate National Authority may wish to maintain this list but will amend the listing based on recommendation from the licence issuing authority (after audit) to either add or remove an agency from it.

9.2.5 The amended list is then sent to all airport/s, air Cargo warehouse operators/handlers and Ground Handling Agencies with a covering letter.

9.2.6 The affected freight forwarding, and ground handling agency is informed in writing of its addition/deletion from the listing.

Note: Inspectors may wish to maintain a copy of this list in coordination with the issuing authority.

10. CONSIGNMENT INSPECTION AT CARGO FACILITIES (Package and Documents)

10.1 General

10.1.1 The aim of checking consignments of dangerous goods is to determine that, as far as can be ascertained from an external check, the packages and their associated documents comply with the requirements; it also aims to determine, as far as possible, that associated documentation (e.g., air waybill, shipper's declaration, acceptance check list, written notification to commander) meets all applicable requirements.

10.1.2 A consignment inspection consists of a package inspection and a documents inspection. Consignment inspections are carried out, also to determine whether or not the operators/handling agent's procedures are being followed. Inspections are carried out in the operator's or handling agent's premises and after the dangerous goods have been accepted for transport or whilst they are still in the care of the operator or handling agent.

10.1.3 Both export and import consignments are to be inspected, with the added emphasis on export consignments, since, if a consignment is found which does not comply with the requirements, action can be taken to prevent it from being loaded on an aircraft and investigation made into how it was offered for transport and accepted in the state in which it has been found.

10.1.4 Import consignments are also to be checked, since although they have been carried by air, the finding of evidence of non-compliance with the requirements needs to be reported to the State where the goods were originally loaded on an aircraft.

10.1.5 If a consignment inspection is part of an in-depth inspection, check there are procedures in place that are suitable for handling dangerous goods, given the nature and scale of the operation, including recurrence of training, acceptance procedures, notices at cargo acceptance points, loading procedures and provision of information (manuals, NOTOC, emergency response guidance).

10.1.6 When an inspection is scheduled, adequate notice should be given to advise the operator/handling agent and arrangements made for access to relevant areas. In certain cases, the inspection may be carried out without giving prior notice as an Ad-hoc oversight/quality control measure. However, this may not always be practicable or desirable. If the inspection is unannounced, the senior most official on duty responsible for operational functions should be contacted and informed of the inspection. It should be confirmed which consignments are available for inspection and, if necessary, a final decision be made on what will be checked.

10.2 Package Inspection

10.2.1 A package inspection comprises of a visual inspection of the external appearance of all the packages of dangerous goods currently held by the operator or handling agent, irrespective of whether they are due for transport or have been transported, providing they are still in the operator's or handling agent's custody.

10.2.2 The inspection will check that the marking and labelling requirements have been met, that the type of packaging used is permitted and of the correct specification, for radioactive material packages the radiation level and that the packages are, or would appear to have been, in a safe and acceptable state for transport by air.

10.3 Document Inspection

10.3.1 A document inspection is to determine, as far as possible, that a dangerous goods consignment meets all applicable requirements. Information is contained in several documents and to transport the same a thorough check is necessary to cross referring the same with each other is necessary.

10.3.2 Where the operator or handling agent has stored packages of dangerous goods within their premises, the associated documents are to be checked. Wherever there is no package available for inspection, a check of all relevant DG transport documents shall suffice. The method is to look at the documents of every consignment that was carried during a specific period. For export consignments, the documents that need to be inspected are as follows:

a) The Air Waybill;
b) The Dangerous Goods Transport Document (Shipper’s Declaration);

Note: The purpose of inspecting the Air Waybill, Dangerous Goods Transport Document and other documents relating to a consignment is to ensure that they have been completed correctly and that, as far as can be ascertained, the correct classification and method of packing was used.

c) The Acceptance Check List;

Note: The Acceptance check list is inspected to establish that the operator or handling agent uses a form or other system which allows for completion by the acceptance clerk, either manually or mechanically, and that consignments of dangerous goods were accepted in accordance with the requirements or that any errors were correctly identified.

d) The Notification to Captain/Commander (NOTOC);

Note: The Notification to Captain/Commander (NOTOC) is checked to establish that all the required information was given, that the form was correctly signed and that the loading /stowage requirements were met.

e) Other documents relating to a consignment that may assist in assessing it.

11. RAMP INSPECTION (LOADING AND STOWAGE)

11.1 General

11.1.1 Ramp inspections take place on or adjacent to an aircraft and sometimes, also in a warehouse/freight shed prior to loading, with the aim of checking that the operator has prepared the DG consignment for loading and or loaded the aircraft according to the principles of the Technical Instructions, including the training for the crew (both flight and cabin crew, if appropriate), that all required manuals/staff instructions, etc., are on board and up-to-date and that any necessary approvals/exemptions are being carried and the conditions on them have been complied with.

11.1.2 A ramp inspection is likely to comprise primarily with confirming that loading and stowage of dangerous goods meet the requirements of ICAO Technical Instructions.

11.2 Loading and Stowage

11.2.1 An inspection on loading and stowage includes ensuring that dangerous goods are adequately secured to prevent movement during the flight, as well as to ascertain that any radioactive material has been stowed as per the required and duly maintained segregation distances and that any cargo aircraft only dangerous goods are on the main deck and accessible on a freighter aircraft as per the requirements of the Technical Instructions; and that toxic or infectious substances are not in close proximity to live animals (AVI) or foodstuffs (EAT).

11.3 Training of Crew

11.3.1 An inspection on training for flight crew and cabin crew consists of talking and or interviewing the crew in the form of representative selection from the group asking for details of their last training, with open ended questions such as when it was and who carried it out. Subsequently, the names of crew members interviewed should be recorded and the operator should be advised to provide the details of their training records.

11.3.2 The training inspection should also confirm that both flight and cabin crew understand what actions to take in the event of emergencies whilst the aircraft is in flight, as required by the Technical Instructions.

12. PASSENGER INFORMATION INSPECTION (WARNING NOTICES)

12.1 General

12.1.1 The Technical Instructions requires that the operator (or his handling agent) provide information for passengers about the types of dangerous goods forbidden from transporting aboard aircraft. This information must consist of notices, warning passengers of the prohibition on dangerous goods in baggage, to be prominently displayed and in sufficient numbers so that passengers see them during their normal progression through departure procedures.

12.1.2 The aim of inspecting information provided for passengers is to ascertain those operators (or their agents) are providing such information. The method of inspecting notices is to check those areas in terminals where the operator (or his handling agent) issues tickets, checks in passengers and assembles them to board an aircraft.

12.1.3 The inspection should confirm that notices are at the required places (check-in desks, ticket sales desk and operator-maintained aircraft boarding areas including websites). Notices should be conspicuous and in sufficient number so as to be seen by passengers during their normal progression through the check in procedures through to departure.

12.1.4 The method of inspecting warning material in or with tickets is to ask to look at passenger's tickets or during the web based online check-in portals to be demonstrated by the operator. Passengers must be assured that the inspection concerns operator's responsibilities and in no way directly involves them.

Note: With e-ticketing the terms and conditions for the carriage of dangerous goods should be part of the purchase arrangement.

13. APPROVAL TO CARRY DANGEROUS GOODS & EXEMPTION IN SPECIAL CIRCUMSTANCES

13.1 Conditions *and Special Provisions*

13.1.1 Whilst the Civil Aviation Authority or the Appropriate National Authority of the state issues a general approval to freight forwarders, handling gents and foreign air operators, one off

approvals or exemptions for the transport of certain classes of dangerous goods which are normally forbidden on passenger aircraft and/or cargo aircraft may be issued by the Appropriate National Authority. Those dangerous goods are identified in Table 3-1 of the ICAO TI by Special Provision A-1, A-2 or A-109 and may include the carriage of:

a) Transportation of Arms, Ammunition and Explosives
b) Transport of Forbidden Dangerous Goods
c) Radioactive Material

13.1.2 The state may offer to propose as a rule that the operator shall inform the Appropriate National Authority of their intention before transportation of dangerous goods by air, by sending an application/letter/email for an authorisation to transport Dangerous Goods in special circumstances. The Technical Instructions make a distinction between exemption and approval and define them as:

a) **Exemption**: An authorisation issued by the appropriate authority providing relief from the provisions of the Instructions

b) **Approval**: An authorisation issued by the appropriate authority for:

I. transport of those entries in the dangerous goods list which are forbidden on passenger aircraft and/or cargo aircraft and to which Special Provision A1, A2 or A109 has been assigned; or

II. other purposes as specified in the Technical Instructions Supplement under chapter 1 of S-1.

13.1.3 In case of extreme urgency or when other form of transport is inappropriate or full compliance with the prescribed requirements is contrary to the public interest, the Appropriate National Authority may grant exemptions as per the provisions provided that in such cases every effort shall be made to achieve an overall level of safety in transport which is equivalent to the level of safety provided by the state regulations. For over-flight, if none of the criteria for granting an exemption are relevant, an exemption may be granted based solely on whether it is believed that an equivalent level of safety in air transport has been achieved. The applicant will need to demonstrate that an "equivalent level of safety" can be achieved and the approval or exemption must contain whatever conditions are necessary to ensure that level of safety, in addition to any conditions which the Technical Instructions identifies as being required on any approval or exemption.

13.1.4 Any conditions on other approvals or exemptions granted by other States concerned in the flight are be reflected on the approval or exemption granted, in order to avoid conflicting requirements. The approvals or exemptions are usually valid for short periods, for a single flight or short series of flights, although if the need arises, they can be granted for longer periods of time. The Technical Instructions contains a system of granting approvals for the carriage of some dangerous goods which are forbidden in normal circumstances on either passenger aircraft or both passenger and cargo aircraft. This system permits these goods on aircraft with an approval granted by the State of Origin.

13.1.5 The approval can only be granted if the method of packing and the quantity per package is in accordance with that set down in the Technical Instructions or the Supplement to the Technical Instructions and these conditions need to be stated on the document of approval which is issued. These approvals are usually valid for short periods, for a single flight or short series of flights, although if the need arises, they can be granted for longer periods of time. After an approval or exemption has been granted, circumstances may arise when all or some of the conditions on it are no longer valid and a variation may be needed; this will vary that part of the original approval or exemption which has changed. Only if some time has elapsed since the original approval, etc., was granted or there is a major difference between what was originally requested and what is now sought is a complete reissue of it to be considered.

14. DANGEROUS GOODS ACCIDENTS AND INCIDENTS (SSP Component 2 State Safety Risk Management)

14.1 Introduction

14.1.1 Each State must establish procedures for reporting, investigating and compiling information concerning dangerous goods accident and incident which occur on its territory, and which involve the transport of dangerous goods originating in or destined for another State.

14.1.2 Dangerous Goods accidents and incidents need to be recorded and investigated to establish their cause in order to discover, among other things, if the requirements of the Technical Instructions are inadequate or there has been a violation.

14.1.3 It is also recommended that the member State participate in cooperative efforts with other States concerning violations of dangerous goods regulations with the aims of eliminating such violations.

14.2 Reporting of Dangerous Goods Accidents and Incidents

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14.2.1 As required by the ICAO Technical Instructions, "An operator must report dangerous goods accidents or incidents to the authorities of the State of the operator and the State in which the accident or incident occurred in accordance with the reporting requirements of those authorities". A suspected violation of the requirements (undeclared or mis-declared dangerous goods) must also be reported to the appropriate authorities of the State of the operator, or the State in which it occurred.

14.2.2 When a report is received of a dangerous goods accident or incident it must be checked as quickly as practicably possible to confirm that all relevant details have been reported. If any details are missing, the reporter should be asked to provide them as soon as they are available.

14.2.3 A review will be undertaken of all information currently available in order to establish what action needs to be taken. Wherever a decision has been made that the situation does not necessitate any further action or action is not possible at that stage, the record is annotated to show the same. The review will aim to establish whether or not the incident is regarded as serious (i.e.: there is evidence of non-compliance with the Technical Instructions such that there was a potentially unsafe situation) or not serious (e.g.: misunderstanding of the requirements but not resulting in a potentially unsafe situation).

14.2.4 The aim of investigating a dangerous goods accident and incident is to establish its potential seriousness and determine the cause so that action can be taken to prevent a recurrence. Moreover, any other State from which, or through which, the dangerous goods travelled needs to be notified quickly of all relevant details, particularly if it seems likely that persons in that State may have been exposed to the dangerous goods.

14.2.5 To aid the reporting of dangerous goods accidents and incidents by operators please refer to Part S-7, Chapter 4 of ICAO TI (Doc 9284) Supplement. A sample DG Accident/Incident Reporting Form is hereby made available by the participating states of (Kingdom of Bahrain and the Sultanate of Oman) responsible for this WP, for the benefit of member states, which may be utilised to encourage the Operators to report.

14.3 Investigating of Dangerous Goods Accidents and Incidents

14.3.1 As required by Annex 18, with the aim of preventing the recurrence of dangerous goods accidents and incidents, Appropriate National Authority shall establish procedures for investigating and compiling information concerning such accidents and incidents which occur on its territory, and which involve the transport of dangerous goods originating in or destined for another State.

14.4 Dangerous Goods Accident

14.4.1 A dangerous goods accident is a very serious occurrence and may involve air accident investigators. If there has been a dangerous goods accident any request for information or assistance from other organizations must be dealt with immediately. Any request from another State for details about the dangerous goods on board an aircraft involved in an accident in that State must also be dealt with immediately.

14.4.2 The State in which a dangerous goods accident occurs involving goods originating in or destined for another State must institute an investigation into the circumstances of the accident.

14.4.3 If it becomes known or is suspected that dangerous goods were a causative factor in an aircraft accident, any dangerous goods investigation shall be coordinated with the air accident investigation team.

14.4.4 The recording and investigation of dangerous goods accidents as detailed in the Supplement to the Technical Instructions, Part S-7.4 shall be observed at all times.

14.5 Dangerous Goods Incident

14.5.1 The State in which a dangerous goods incident occurs involving goods originating in or destined for another State must transport out an investigation into the circumstances of the incident such as is considered appropriate to its seriousness.

14.5.2 Preliminary enquiries will be made to establish what has happened, who is involved and what evidence is available. The enquiries will identify if the incident warrants investigation by professional investigators with the aim of securing evidence for prosecution. If professional investigation is not justified or not possible (e.g.: all evidence needed is not available), a detailed investigation still needs to be carried out. The process shall be thorough, to confirm the cause and identify the organizations or individuals responsible for the incident.

14.5.3 When making preliminary enquiries it must be determined whether the dangerous goods in their current state are a danger to persons. If the above is established, arrangements must be made to either make them safe, or dispose them of as quickly as possible, using expert assistance. If an investigation is to be made of the dangerous goods, it is essential that personal safety be taken into account, since many dangerous goods have the potential to cause permanent harm/injury. Protective clothing must be worn, including gloves and goggles. Although it is important to confirm identification of the dangerous goods, this should not be done if in order to do so there is a risk of personal injury.

14.5.4 Upon completion of an investigation of a serious incident, a report shall be produced outlining the details of the incident, the findings of the investigation and recommended action. The report will be reviewed to determine what further action has to be taken. If the investigation shows that the requirements of the ICAO Technical instructions were inadequate or to prevent the recurrence of similar incidents, a report of the incident must be forwarded to ICAO and to the other States concerned. For import consignments, a copy of the report must be sent to the State of Origin and any other State involved in transfer or transit of such DG. For export consignments, if the report has evidence of wrongdoing such that penalty action is justified against those responsible, this must be initiated.

14.6 Recording of Dangerous Goods Accidents and Incidents

14.6.1 A record is to be maintained of all reported dangerous goods accidents and incidents. The aim is for the record to be kept in such a way that all relevant details are included for each accident and incident, so as to provide a permanent record of all reportable accidents and incidents, to allow for a review to establish the cause, to facilitate reporting to other involved States and to allow analysis to establish weaknesses in the requirements or trends. The record can be used also to establish if a

particular shipper, operator, agent, etc., is involved in numerous reported incidents and presents a valid justification for an in-depth investigation.

14.6.2 Details of an accident or incident are to be entered into the record as soon as possible, even if initially few details are known; it is to be up-dated as additional information becomes available. The record will indicate when all action on an accident or incident is complete, and a review made at regular intervals to identify any outstanding action. Past records are not destroyed but may be archived, providing they can be retrieved if the need arises.

14.7 **Cooperation** *between States in the investigation of DG Accidents and Incidents (SSP component 4 State Safety promotion: internal and External communication and dissemination of safety information)*

14.7.1 Annexe 18, Section 11.2 recommends that Contracting States should participate in cooperative efforts with other States concerning violations of dangerous goods regulations, with the aim of eliminating such violations. It is envisaged that cooperative efforts include coordination of investigations and enforcement action, exchanging information and joint inspections.

14.8 The **Aims** *of Cooperation between States*

14.8.1 States need to cooperate in the investigation of occurrences in order to establish what has happened, take remedial action if required and deal with an entity responsible for the violation.
14.8.2 States need to demonstrate that they are jointly in control of the response to the occurrence so that a suspected violator cannot try to exploit any situation where one enforcing agency takes a different or more lenient view of an investigation than the other.

14.8.3 Cooperation between States is needed to ensure all the relevant information about an occurrence is identified, so that correct decisions can be made as to the measures needed to deal with it and prevent any recurrence.

14.8.4 Cooperation is also needed to ensure that where a violator is identified, it is possible to take action, notwithstanding the State where the entity responsible for the violation is situated and penalties could be imposed.

14.9 Liaison **and** *Cooperation between States*

14.9.1 Wherever possible, States should liaise and cooperate with other States on a regular basis, so that the members of the enforcing agencies know the persons to contact in the event of an occurrence and who they would be dealing with in any investigation. A list of National Authority for DG by Air is available through this link.

14.9.2 If no contact has been established with other member States and it is necessary to report an occurrence to them, assistance of ICAO may be sought this regard:

International Civil Aviation organization
Dr. Katherine Rooney
Chief, Cargo Safety Section
E-mail: CSS@icao.int

15. PASSENGER PUBLIC AWARENESS PROGRAMME

15.1 Introduction

15.1.1 Each State must ensure that information is promulgated in such a manner that passengers are warned as to the types of dangerous goods they are prohibited or restricted from transporting aboard an aircraft.

15.1.2 In addition to the mandatory information that must be promulgated by operators, State should encourage all agencies involved in air transport to assist in raising the level of public awareness of the risks of dangerous goods in air transport.

15.2 Awareness Plan Achievement

15.2.1 A Dangerous Goods Awareness Plan should be designed to increase public knowledge in the safe transport of dangerous goods.

15.2.2 Providing information to the travelling public may be achieved through the assistance of all agencies involved in air transportation.

15.3 Avenues of Communication

15.3.1 Several avenues of communication are available to assist States in raising the level of public awareness of the risks of transport of dangerous goods by air. This could be achieved through the following:

a) Travel agents
b) Tour operators
c) Airport authorities
d) Aircraft operators
e) Sports Associations
f) Outdoor Associations
g) Publication in newspapers
h) Magazines
i) Trade publications
j) Newsletters
k) Websites
l) Exhibits at trade shows
m) Conferences.

15.4 Passenger Public Awareness Devices

15.4.1 There are number of methods that may be used to convey easy to understand information to the public regarding restrictions or prohibitions associated with the transport of dangerous goods in passenger carry-on and checked-in baggage or on the person. Some passenger-public awareness methods/tools are as follows:

a) Posters
b) Brochures
c) Display cabinets
d) Electronic media
e) Handouts
f) Websites
g) Information articles
h) Advisory bulletin.

15.5 Availability of **Materials** *for Passenger Public Awareness Programme*

15.5.1 The ICAO Technical Instructions Supplement, Appendices to Part S-8 illustrates some examples of material that may be used for a passenger public awareness programme. Some industry websites also cater to the passenger awareness information and are also available from ICAO Dangerous Goods Panel Secretary. The artwork for some of the above methods is available with ICAO, alternatively for further information the State may contact:

Dr. Katherine Rooney
Chief, Cargo Safety Section
E-mail: CSS@icao.int

16. SOURCE OF ADDITIONAL INFORMATION

16.1 Introduction

16.1.1 Each State should participate in cooperative efforts with other Appropriate National Authorities concerning the transport of dangerous goods with the aim of eliminating violations of the regulations as other regulations might have an impact on the safe transport of Dangerous Goods by air. Cooperative efforts could include joint inspections, technical liaisons, exchange of information and joint meeting and conferences. Participation by the industry stakeholders and other regulatory bodies is paramount. Appropriate information that could be exchanged includes safety alerts, bulletins or advisory, incident reports, and educational/outreach materials suitable for public dissemination.

16.2 Cooperation

16.2.1 Please refer to 14.7 , 14.8 and 14.9 for international cooperation between states.

16.3 Objectives

16.3.1 Participation towards development of recommendations for amendments to ensure implementation within the state's regulations governing Dangerous Goods.

16.3.2 To develop and approve documentary requirements and procedures for the handling and processing of dangerous goods.

16.3.3 Providing for a forum allowing member airlines to exchange and develop information specific to the transport of dangerous goods contained in company material (COMAT) with regular meetings at regular intervals, as appropriate, between the participating agencies, wherein inter-alia, the promotion of an open dialogue with operators throughout the state to ensure safe and compliant operations should be encouraged.

16.3.4 Implementing a strategy for effective dangerous goods training standards within the state based on industry best practice for operators, Ground Handling Agents (GHA) and freight forwarders

16.3.5 Developing checklists and other tools to be used in establishing "proof of compliance" checks for dangerous goods safety standards in accordance with the state regulations and ICAO Technical Instructions.

16.4 Dangerous Goods Websites

16.4.1 Appropriate National Authority should endeavour to provide updated information to the industry pertaining to state specific requirements regarding authority and or limitations using a public website:

a) Overview of Appropriate National Authority for Safe Transportation of Dangerous Goods and associated programme
b) Provisions for dangerous goods carried by passengers focussed upon public awareness.
c) National regulations on the transportation of dangerous goods by air
d) Relevant and applicable amendments to regulatory documents
e) Newsletter and necessary additional information (e.g. safety bulletins etc.)
f) Links to ICAO, IATA and or other dangerous goods related websites (government, associations, industry).
g) A set of Frequently Asked Questions and Answers

h) List of contacts either of Government contacts or resources associated with the industry within the state.
i) Dangerous goods primer addressing the following areas:
    I. Dangerous goods definitions
    II. Training
    III. Classification, proper shipping names and UN numbers
    IV. Quantity limitations
    V. Packaging standards
    VI. Marking and labelling
    VII. Documentation

17. ANNEXES (SAMPLE CHECKLISTS: FREIGHT FORWARDERS AND CARGO AGENTS)

17.1 Annex - A

DGR Inspection LOG														
Sl. No.	**Freight Agency / Aircraft Operator**	**Phone**	**Mobile**	**email**	**Contact Person**	**Expiry Date**	**Proposed Inspection Date**	**Actual Inspection Date**	**Report date**	**Corrective Action Deadline**	**Revisit date**	**PPM Benchmark (Working days)**	**Actual PPM**	**Remarks**
										Minor observations & Recommendations given 7 days.				Revised SOP provided on (date)

17.2 Annex - B

State/ICAO TI / IATA DGR Standard Identifier	**Audit Questions**	**Compliance (Quote Relevant State Act/Regulation or Document Reference) ***	**Compliant**	**Non-Compliant**	**Not Applicable**	**Comments**
Company name:			**Date:**			
Documentation						
	Is the agency an IATA or FIATA authorized member?	*Confirm with authorised and valid Commercial Registration*				
	Do you use a checklist to ascertain whether DG articles/substances are correctly classified, packed, marked, labelled and documented?	*Provide at least two completed checklists for two different shipments to ensure the same.*				

State/ICAO TI / IATA DGR Standard Identifier	Audit Questions	Compliance (Quote Relevant State Act/Regulation or Document Reference) *	Compliant	Non-Compliant	Not Applicable	Comments
	Please provide a copy of the most recent Shipper Declaration for Dangerous Goods held by your agency.	*Ensure the Shipper's Declaration provides all the necessary information, and it is current, sensibly filled.*				
	Is the agency in possession of the state regulations and guidance material for DG?	*Discuss & confirm by asking for a copy of the publication or awareness about the same*				
	Determine if the Operations Manual is available to company personnel as required.	*A copy of the operations manual or the SOP for handling any eventuality*				
	Determine if the airway bill procedures are in compliance with the appropriate regulations.	*Cross examine with DGD*				
	Determine if the Shipper's Declaration completion procedures are in compliance with the appropriate regulations.	*Cross examine with checklist and AWB*				
	Determine if a reporting system exists to identify undeclared or misdeclared dangerous goods.	*Ask staff about DG Reporting Form*				
	With regard to Undeclared or Misdeclared articles falling into one of the DG categories, would you make a report?	*Ask the nominated staff, in a brief interview*				
	Review dangerous occurrence reports, where applicable.	*Awareness about the reporting form*				
	Determine that copy of the applicable regulations are available.	*A copy of the IATA DGR current edition*				
	Review manual and determine if there have been any amendments to the dangerous goods section of the company operations manual.	*Check for amendments included with the Operations manual and or SOP.*				
	Identify any outstanding Audit Findings respecting the last audit. (PRE)	*Verify from the last audit report*				
Nominated Person						

State/ICAO TI / IATA DGR Standard Identifier	Audit Questions	Compliance (Quote Relevant State Act/Regulation or Document Reference) *	Compliant	Non-Compliant	Not Applicable	Comments
	Is the PoC for the agency duly trained to accept and process DG?	Ask the Point of contact or nominated staff.				
	Please state the supplier(s) of packaging materials used for the movement of DG:	*Verify the name of the third-party supplier and ensure that appropriate packaging material is being used.*				
	Have you ever been asked to transport forbidden articles or substances by air?	*Supply the procedure of transportation, documentation and third-party name.*				
	Explain in detail how you would determine whether a substance is to be classified as 'Dangerous Goods'	*Ensure adequate information is supplied; staff must be knowledgeable regarding classification and labelling.*				
	Is the agency involved in handling and transportation of radioactive materials? (W/H)	*Verify if training includes radioactive and if the facility can accommodate radioactive materials.*				
	Who in your agency Inspect the *Shipper Declaration?*	*Provide detailed information of why that person is credible.*				
	Does your agency provide the *Shipper's Letter of Instruction* in which a statement is made by the shipper pertaining to the nature of the goods being shipped?	*Supply a current letter of instruction and documentation of the usage. Provide nominated staff member credentials.*				
	Has sufficient information regarding procedures for handling and transporting Dangerous Goods been made available to your employees?	*Bestow that information and procedures. Ask if employees have received any information regarding the matter.*				
Packaging and Labelling						
	Please state the supplier(s) of packaging materials used for the movement of DG:	*Verify the name of the third-party supplier and ensure that appropriate packaging material is being used.*				

State/ICAO TI / IATA DGR Standard Identifier	Audit Questions	Compliance (Quote Relevant State Act/Regulation or Document Reference) *	Compliant	Non-Compliant	Not Applicable	Comments
	Determine the capability of the carrier to replace lost or stolen safety marks.	*Adequate stock of labels in custody of the agent, ask for samples*				
Training						
	Is your training current? - Documentation?	*Procure copies of certificate/training nominations.*				
	Who provides staff training? (TRNG)	*Appropriate National Authority /host state's approval for Training Organisation. Check*				
	Are they an accredited training establishment? (TRNG)	*Establish whose accreditation is being given.*				
	Is the training subject to a competency test?	*Ask the staff the type of tests undergone.*				
	Are any records kept?	*If internal training is being conducted ask for training records.*				
	Are you able to produce certification of training?	*Establish the same with documentary evidence.*				
	Verify that trained employees are able to produce certificates of Training upon request. (TRNG)	*Copy of certificates as evidence to be collected*				
	Determine that the certificate of training contains the required Information.	*Cross check in conjunction with 1st & 4th Question in this section*				
	Determine that the company has a record of training for trained Employees on file.	*Verify with training plans or programmes current fiscal year*				
	What action would you take in the event of the shipper being unable to provide you with a PROPER SHIPPING NAME and/or UN number? – Please explain	*Provide detailed information of the procedures and if possible, supply copies of rejected shipments regarding same issue.*				
	On average, state the most common DG item(s) accepted by your agency?	*Present sufficient information and references of the most common DG item.*				

State/ICAO TI / IATA DGR Standard Identifier	Audit Questions	Compliance (Quote Relevant State Act/Regulation or Document Reference) *	Compliant	Non-Compliant	Not Applicable	Comments
	Determine if the company's acceptance procedures are in compliance with the regulations.	*Verify the awareness of the IATA DGR acceptance rules*				
	Is your staff properly trained to react professionally in the event of an emergency, which may be defined as a spillage, leakage or fire etc.? (W/H)	*Emergency Response measures as per ERAP or HSE manual of the organisation*				
	List the categories of staff that receive Dangerous Goods training, e.g. DRIVER/PACKER/WAREHOUSEMAN etc.	*Cross check compliance with DG Training Manual or IATA DGR Table 1.5 A or Appendix H*				
	Does the company's dangerous goods' training programme match the Appropriate National Authority approved programme?	*Ask for Training plan for the organisation*				
	Determine if the company has the Appropriate National Authority approved dangerous goods training programme.	*Verify the same in compliance with IATA Table 1.5A*				
	Determine if the training programme reflects all regulatory or Operational amendments.	*If internal training is provided, verify the lesson plans with evidence*				
Warehouse						
	Is the Warehouse certified by the Civil Defence Fire and Emergency standards	*Request for the copy of the certificate and check validity*				
	Does your agency have separate storage facilities solely for dangerous goods?	*Can the current facility accommodate DG and if not, there must be a separate facility that can do so? Provide Layout of the Facility that holds DG.*				
	Are there sufficient numbers and types of Fire Extinguishers available near the storage area?	*Check the expiry dates of all extinguishers.*				
	Is there a spillage and leakage kit available?	*Check the condition and expiry date for validity. Or any other method of containment?*				

State/ICAO TI / IATA DGR Standard Identifier	Audit Questions	Compliance (Quote Relevant State Act/Regulation or Document Reference) *	Compliant	Non-Compliant	Not Applicable	Comments
	If the agency is involved in handling, storage and transportation of radioactive materials?	*Verify if the warehouse the facility to accommodate radioactive materials.*				
	At your cargo acceptance point, are there notices prominently displayed relating to information regarding the transportation of Dangerous Goods?	*Confirm display of DG posters or declaration notifications.*				
	Does the warehouse have segregation table displayed, safety signage in close proximity to the DG Storage area	*Verify visually and ask the DG PoC*				
	Determine if untrained personnel, who are handling offering for transport and transporting, are appropriately supervised.	*Monitor staff in person and observe*				
	List the categories of staff that receive DG training, e.g. DRIVER/PACKER/WAREHOUSEMAN etc.	*Interview the staff handling DG at the warehouse*				
	Are emergency instructions or ERAP included?	*Verify that the emergency procedures are listed and are being carried out and collect copies of emergency procedures or ERAP*				
	Verify the company has the proper measures to address incidents related to DG in place.	*Emergency Response measures as per ERAP or the HSE manual of the organisation*				

APPENDIX D

RASG-MID SAFETY ADVISORY – 17

(RSA-17)

7 November 2022

MID-Region

Guidance Material for Occurrence Reporting concerning CAA personnel on establishing an effective operation of Mandatory and Voluntary Reporting Systems

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These guidelines are developed by the Safety Enhancement Implementation Group (SEIG), as part of Middle East Regional Aviation Safety Plan (MID-RASP) 2020-2022 Edition Safety Enhancement Initiatives (Ref: G5-SEI-04: A4) based on the work of the UAE General Civil Aviation Authority in coordination with ICAO MID Regional Office and the Regional Aviation Safety Group - Middle East (RASG-MID).

Disclaimer

This document is intended to provide guidance for civil aviation authorities to develop reporting system. This document has also been compiled by members of aviation industry to improve aviation safety at the regional level. It is not intended to supersede or replace existing materials produced by the State or in ICAO SARPs. The distribution or publication of this document does not prejudice the State's ability to enforce existing National regulations. To the extent of any inconsistency between this document and the National/International regulations, standards, recommendations or advisory publications, the content of the National/International regulations, standards, recommendations and advisory publications should prevail.

Related Documents:

- ICAO Document 9859 SMM
- ICAO Annex 19
- GCAA CAR Part X
- GCAA Acceptable Means of Compliance 22
- GCAA Acceptable Means of Compliance 57
- EASA REGULATION (EU) No 376/2014
- GCAA NPA on Civil Aviation Regulation for Occurrence Reporting

Description and Objective

It is necessary to ensure that aviation professionals report occurrences that pose a risk to aviation safety. Occurrence reporting helps improve aviation safety by ensuring that relevant safety information is reported, collected, stored, protected, exchanged, disseminated, and analyzed. Furthermore, it is not to be used to attribute blame or liability but supports continued learning to make aviation operations safe.

The purpose of this Guidance Material is to provide interpretative material and direction for the reporting of Safety Related incidents using various occurrence reporting system by persons/organizations licensed/regulated under the State Civil Aviation Authority

In addition to reporting of safety incidents to the Civil Aviation Authority, this Guidance Material also covers what qualifies to be a reportable occurrence, whose responsibility is it to report, sharing of best practices to establish an effective occurrence reporting system, what is the value of occurrence reports and how this data can be used to improve and contribute in developing a State Safety Program.

Mandatory Occurrence Reports:

The provisions in Chapter 8 of ICAO Annex 13 require the States to establish mandatory occurrence (incident) reporting systems to facilitate the collection of information on actual or potential safety deficiencies. Further to that, ICAO requirements relating to the implementation of safety management systems (SMS) require that aviation service providers develop and maintain a formal process for effectively collecting, recording, acting on and generating feedback about hazards in operations, based on a combination of reactive, proactive and predictive methods of safety data collection. During the collection of Mandatory Reports it is a good practice to group in the following domains (Examples covered in Appendix A of this GM):

- Aircraft flight operations
- Aircraft technical, maintenance and repair
- Air navigation services and facilities
- Aerodromes and ground services.

Voluntary Occurrence Reports:

Voluntary reporting systems are established in order to facilitate collection of information on actual or potential safety deficiencies that may not be captured by the mandatory incident reporting system, from all aviation stakeholders and should be managed totally independent from all other reporting systems. The system ensures that relevant data on safety is reported, collected, stored, protected and disseminated. The system is also designed to accept anonymous reports. The following points are fundamental for the effectiveness of Voluntary Reporting Systems:

- Trust
- Non-punitive
- Ease of reporting
- Promotion
- Inclusive reporting base
- Confidentiality
- Acknowledgment

What Type of reports are collected.

The following types of occurrence classifications fall under the category of reportable occurrences and which CAAs should differentiate between when collecting and storing the data:

Accidents:

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 as it comes to rest at the end of the flight and the primary propulsion system is shutdown, in which:

a) a person is fatally or seriously injured as a result of:

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

b) the aircraft sustains damage or structural failure which:

- adversely affects the structural strength, performance or flight characteristics of the aircraft, and
- would normally require major repair or replacement of the affected component, except for engine failure or damage, when the damage is limited to a single engine, (including its cowlings or accessories), to propellers, wing tips, antennas, probes, vanes, tires, brakes, wheels, fairings, panels, landing gear doors, windscreens, the aircraft skin (such as small dents or puncture holes), or for minor damages to main rotor blades, tail rotor blades, landing gear, and those resulting from hail or bird strike (including holes in the radome); or

c) the aircraft is missing or is completely inaccessible.

Serious Incidents:

An incident involving circumstances indicating that there was a high probability of an accident and 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 as it comes to rest at the end of the flight and the primary propulsion system is shut down.

Incident:

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

Dangerous Goods:

Articles or substances which are capable of posing a risk to health, safety, property or the environment and which are shown in the list of dangerous goods in the Technical Instructions or which are classified according to those Instructions.

Unlawful Acts:

These are acts or attempted acts such as to jeopardize the safety of civil aviation, including but not limited to:

- unlawful seizure of aircraft,
- destruction of an aircraft in service,
- hostage-taking on board aircraft or on aerodromes,
- forcible intrusion on board an aircraft, at an airport or on the premises of an aeronautical facility,
- introduction on board an aircraft or at an airport of a weapon or hazardous device or material intended for criminal purposes,
- use of an aircraft in service for the purpose of causing death, serious bodily injury, or serious damage to property or the environment,
- communication of false information such as to jeopardize the safety of an aircraft in flight or on the ground, of passengers, crew, ground personnel or the general public, at an airport or on the premises of a civil aviation facility.

Unapproved Parts

Unapproved aircraft parts are aircraft parts not approved by civil aviation authorities for installation on type certified aircraft.

Who should report:

The following section identifies the categories of Organizations / Personnel that should be considered and addressed to submit Occurrence Reports:

- All Civil Registered Aircraft (air operators) operating in or outside the territory of State of Registry;
- All non-State air operators operating State Registered Aircraft.
- State approved or certified organizations including:
- Overseas organizations (CAR M, 21 & CAR145) as applicable; and
- Recreation aviation aircraft (Light Sport Aircraft).
- Approved Training Organizations.
- Air Navigation Service Providers.

- Certified Aerodromes
- Certified Heliports

Within the above-mentioned organizations, following categories of personnel can be included for submitting Occurrence Reports:

- Operator or commander of an aircraft, whether registered or not under the State CAA, but operated by the holder of an Air Operator Certificate or ATO certificate issued by the State CAA; or
- personnel that carry out in the State or outside State the business of designing, manufacturing, modifying or maintaining State registered aircraft, or any equipment or part thereof; or
- Personnel who sign a certificate of release to service in respect of the aircraft indicated in paragraph (a); or any equipment or part thereof; or
- Personnel declared as Air Navigation Service Provider that perform a function connected with the installation, modification, maintenance, repair, overhaul, flight checking or inspection of air navigation facilities or other services which are approved by the CAA; or
- Personnel that perform a function connected with the ground handling of aircraft, including fueling, servicing, load sheet preparation, loading, dangerous goods and towing at State Aerodromes.

It should be understood that, while the above items define those who have to report, anyone may report, should they consider it necessary. Persons should report any reportable occurrence of which they have positive knowledge, even if they have good reason to believe that appropriate details of the occurrence have already been, or will be, reported by someone else. A report should also be submitted on any occurrence that involves an unsatisfactory condition, behavior or procedure, which did not immediately endanger the aircraft but if allowed to continue uncorrected, or if repeated in other foreseeable circumstances, would create a hazard to aircraft or individuals or property.

What is the value of safety reporting for CAAs?

Occurrence reports are a core data source used to inform the CAAs decision and policy making, it also assists in setting State's Strategic Safety Objectives and safety intellegence. Making frequent use of occurrence data helps to identify safety trends, hazards, risks and issues that have the potential to impact on the safety of the whole aviation system.

Occurrence reporting data once having reached maturity levels, can also be used to support numerous academic and aviation safety related studies through the provision of analysis and de-identified datasets.

Best Practices on establishing effective Occurrence Reporting Systems

- **Reporting Timelines**

CAAs should establish reporting timelines when it comes to Mandatory Occurrence Reports, as for Voluntary Reports There is no time limitation to submit a report. However, in the interest of safety, time critical information may be reported at the earliest opportunity. The following can be considered when establishing reporting timelines for Mandatory Reports:

For Accidents and Serious Incidents: Immediate Notification to the Air Accident Investigation Authority through the duty investigator and a Mandatory Occurrence Report submitted within 24 hours containing all pertinent information about the condition and evaluation results known to the person or organization and details of the investigation and actions it intends to take to prevent similar occurrences in the future.

All other incidents: For the purpose of reducing the burden and pressure of reporting on the organizations and personnel, occurrences which did not have a significant impact on safety of aircraft operation can be considered for submission within 15 calendar days containing all pertinent information about the condition and evaluation results known to the person or organization and details of the investigation and actions it intends to take to prevent similar occurrences in the future. If additional detailed information become available after 15 calendar days then the concerned organizations shall update the submitted occurrence report.

- **Categories of reports by domains:** Please refer to Appendix A of this GM for list of Occurrence Categories by domain.

- **Reporting form criteria:**
  An Occurrence Reporting form should include the following Mandatory data fields (in dropdown format with data fields standardized) to ensure data analysis activities and publishing of safety information is accurate and actual as possible:

*Note***:** When entering, in their respective databases, information on every occurrence mandatorily reported and, to the best extent possible, every occurrence voluntarily reported, organizations,must ensure that occurrence reports recorded in their databases contain at least the following information:

(a) Organization name, originator's name and ID.
(b) Aircraft Registration Mark, Flight Details/Aircraft configuration/Maintenance Incidents/Approval Reference (if relevant)
(c) Information necessary to identify the aircraft, crew or part affected
(d) Date, time and route or location
(e) Classification and categorization of events;
(f) A written short description of the incident including root cause identification, any immediate corrective measures/actions taken or planned.

Note: For any incident involving a system or component:

(a) If monitored or protected by a warning and/or protection system (for example: fire detection/extinguishing) the incident report should always state whether such system(s) functioned properly.
(b) Identification if its reliability is of concern as per the established reliability programme (if applicable)

SPECIFIC MANDATORY DATA FIELDS

Aircraft-related data fields

When entering, in their respective databases, information on every occurrence mandatorily reported and, to the best extent possible, every occurrence voluntarily reported, organizations, must ensure that occurrence reports recorded in their databases contain at least the following information:\

(a) Aircraft Identification
  (1) State of Registry
  (2) Make/Model/Series
  (3) Aircraft serial number
  (4) Aircraft Registration
  (5) Call sign
(b) Aircraft Operation
  (1) Operator
  (2) Type of operation
(c) Aircraft Description
  (1) Aircraft Category
  (2) Propulsion Type
  (3) Mass Group
(d) History of Flight
  (1) Last Departure Point
  (2) Planned Destination
  (3) Flight Phase
(e) Weather
  (1) Weather relevant

DATA FIELDS RELATING TO AIR NAVIGATION SERVICES

When entering, in their respective databases, information on every occurrence mandatorily reported and, to the best extent possible, every occurrence voluntarily reported, organizations, must ensure that occurrence reports recorded in their databases contain at least the following information:

(a) ATM relation
  (1) ATM contribution
  (2) Service affected (effect on ATM service)
  (3) Phase of Flight *(Flight Level)*
(b) ATS Unit Details
  (1) Airspace and control positions
  (2) Personnel involved
(c) Meteorological information

SEPARATION MINIMA INFRINGEMENT/LOSS OF SEPARATION AND AIRSPACE INFRINGEMENT-RELATED DATA FIELDS

When entering, in their respective databases, information on every occurrence mandatorily reported and, to the best extent possible, every occurrence voluntarilyreported, organizations, must ensure that occurrence reports recorded in their databases contain at least the following information:

(a) Airspace
    (1) Airspace type
    (2) Airspace class
    (3) FIR/UIR name

AERODROME-RELATED DATA FIELDS

When entering, in their respective databases, information on every occurrence mandatorily reported and, to the best extent possible, every occurrence voluntarily reported, organizations must ensure that occurrence reports recorded in their databases contain at least the following information:

(a) Location Indicator (ICAO indicator of the airport)
(b) Location on the aerodrome
(c) Information relating to any vehicle involved (company/call sign etc.)
(d) Information relating to the Department and/or company of personnel involved

AIRCRAFT DAMAGE OR PERSONAL INJURY-RELATED DATA FIELDS

When entering, in their respective databases, information on every occurrence mandatorily reported and, to the best extent possible, every occurrence voluntarily reported, organizations must ensure that occurrence reports recorded in their databases contain at least the following information:

(a) Severity
    (1) Highest Damage
    (2) Injury Level
(b) Injuries to persons
    (1) Number of injuries on ground (fatal, serious, minor)
    (2) Number of injuries on aircraft (fatal, serious, minor).

- **Common Hazard Taxonomy: (See ECCAIRS – ADREP Taxonomy) for complete list of hazard taxonomies which can be embedded within the occurrence reporting system https://www.icao.int/safety/airnavigation/aig/pages/adrep-taxonomies.aspx**

a) Aims to improve Hazard Identification by taking pre-emptive action to prevent similar incidents occurring in the future.
b) Analysis of safety data and producing safety information to enable data driven decision making (D3M).
c) Encourage aviation industry to follow a common reporting scheme to ensure harmonization.
d) Ease the establishment of Safety Data and Information Exchange Platforms.

What can Safety Data be used for:

a) Sharing and Exchange of Safety data and information on a national and international level
b) Detailed periodic as well as executive Safety Reports
c) Data Analysis and Trends
d) Setting State Safety Indicators / Targets / Acceptable Levels of Safety Performance
e) Industry Safety Performance Monitoring
f) Specific internal and external Data and information requests

APPENDIX A: List of example occurrence by domain

Remark: This Appendix is structured in such a way that the pertinent occurrences are linked with categories of activities during which they are normally observed, according to experience, in order to facilitate the reporting of those occurrences. However, this presentation must not be understood as meaning that occurrences must not be reported in case they take place outside the category of activities to which they are linked in the list.

I. AIRCRAFT FLIGHT OPERATIONS

A. Operation of the Aircraft

1) Aircraft maneuver:
   a) Risk of collision with an aircraft, terrain or other object or an unsafe situation when avoidance action would have been appropriate.
   b) An avoidance maneuver required to avoid a collision with an aircraft, terrain or other object.
   c) An avoidance maneuver to avoid other unsafe situations.

2) Take-off or landing incidents, including precautionary or forced landings.

3) Incidents such as under-shooting, over running or running off the side of runways.

4) Take-offs, rejected take-offs, landings or attempted landings on a closed, occupied or incorrect runway.

5) Inability to achieve predicted performance during take-off or initial climb.

6) Critically low fuel quantity or inability to transfer fuel or use total quantity of usable fuel.

7) Loss of control (including partial or temporary loss of control) from any cause.

8) Incident close to or above V1 resulting from or producing a hazardous or potentially hazardous situation (e.g. tail strike, engine power loss, rejected take-off etc.).

9) Go-around/Missed Approach producing a hazardous or potentially hazardous situation including rejected landing.

10) Unintentional significant deviation from airspeed, intended track or altitude (more than 300ft) from any cause.

11) Descent below decision height/altitude or minimum descent height/altitude without the required visual reference.

12) Loss of position awareness relative to actual position or to other aircraft.

13) Breakdown in communication between flight crew (CRM) or between Flight crew and other parties (cabin crew, ATC, engineering).

14) Heavy/hard landing - a landing deemed to require a 'heavy landing check'.

15) Exceedance of fuel imbalance limits.

16) Incorrect setting of an SSR code or of an altimeter subscale.

17) Incorrect programming of, or erroneous entries into, equipment used for navigation or performance calculations, or use of incorrect data.

18) Incorrect receipt or interpretation of radiotelephony messages.

19) Fuel system malfunctions or defects, which had an effect on fuel supply and/or distribution.

20) Aircraft unintentionally departing a paved surface.

21) Collision between an aircraft and any other aircraft, vehicle or other ground object.

22) Inadvertent and/or incorrect operation of any controls.

23) Inability to achieve the intended aircraft configuration for any flight phase (e.g. landing gear and doors, flaps, stabilisers, slats etc).

24) A hazard or potential hazard which arises as a consequence of any deliberate simulation of failure conditions for training, system checks or training purposes.

25) Abnormal vibration.

26) Operation of any primary warning system associated with manoeuvring of the aircraft e.g. configuration warning, stall warning (stick shake), over speed warning etc. unless:

a) the crew conclusively established that the indication was false.
b) provided that the false warning did not result in difficulty or hazard arising from the crew response to the warning; or
c) operated for training or test purposes.

27) GPWS/TAWS ‘warning’ when:

a) the aircraft comes into closer proximity to the ground than had been planned or anticipated; or
b) the warning is experienced in IMC or at night and is established as having been triggered by a high rate of descent (Mode 1); or
c) the warning results from failure to select landing gear or landing flap by the appropriate point on the approach (Mode 4); or
d) any difficulty or hazard arises or might have arisen as a result of crew response to the ‘warning’ e.g. possible reduced separation from other traffic. This could include warning of any Mode or Type i.e. genuine, nuisance or false.

28) GPWS/TAWS ‘alert’ when any difficulty or hazard arises or might have arisen as a result of crew response to the ‘alert’.

29) TCAS/ ACAS RAs.

30) Jet or prop blast incidents resulting in significant damage or serious injury.

31) Taxiway incursion/Runway incursion.

32) Laser interference incidents.

33) Unstable approach reported by pilots or analyzed through FDM program.

B. Emergencies

1) Fire, explosion, smoke or toxic or noxious fumes, even though fires were extinguished.

2) The use of any non-standard procedure by the flight or cabin crew to deal with an emergency when:
   a) the procedure exists but is not used; or
   b) a procedure does not exist; or
   c) the procedure exists but is incomplete or inappropriate; or
   d) the procedure is incorrect; or
   e) the incorrect procedure is used.

3) Inadequacy of any procedures designed to be used in an emergency, including when being used for maintenance, training or test purposes.

4) An event leading to an emergency evacuation

5) Depressurization events.

6) The use of any emergency equipment or prescribed emergency procedures in order to deal with a situation.

7) An event leading to the declaration of an emergency (‘Mayday’ or ‘Pan Pan’).

8) Failure of any emergency system or equipment, including all exit doors and lighting, to perform satisfactorily, including when being used for maintenance, training or test purposes.

9) Events requiring any emergency use of oxygen by any crew member.

C. Crew Incapacitation

1) Incapacitation of any member of the flight crew, including that which occurs prior to departure if it is considered that it could have resulted in incapacitation after take-off.

2) Incapacitation of any member of the cabin crew which renders them unable to perform essential emergency duties.

D. Aircrew Fatigue

1) A physiological state of reduced mental or physical performance capability resulting from sleep loss or extended wakefulness, circadian phase, or workload (mental and/or physical activity) that can impair a crew member’s alertness and ability to safely operate an aircraft or perform safety related duties.

2) Fatigue is a major human factor hazard because it affects most aspects of a crewmember’s ability to do their job. It therefore has implications for safety.

3) For example, crew member reports on fatigue due to an incident happened on the aircraft and it is believed that fatigue is considered to be the main reason for the occurrence of such incident.

E. Injury

1) An incident, which have or could have led to significant injury to passengers or crew but which are not considered reportable as an accident under ANNEX 13.

F. Meteorology

1) A lightning strike which resulted in damage to the aircraft or loss or malfunction of any essential service.

2) A hail strike which resulted in damage to the aircraft or loss or malfunction of any essential service.

3) Severe turbulence encounters resulting in injury to occupants or deemed to require a 'turbulence check' of the aircraft.

4) A wind shear encounter.

5) Icing encounter resulting in handling difficulties, damage to the aircraft or loss or malfunction of any essential service.

G. Security

1) Unlawful interference with the aircraft including a bomb threat or hijack.

2) Difficulty in controlling intoxicated, violent or unruly passengers.

3) Discovery of a stowaway.

H. Aerodrome and Aerodrome Facilities

1) Significant spillage during fueling operations.

2) Loading of incorrect fuel quantities likely to have a significant effect on aircraft endurance, performance, balance or structural strength.

3) Unsatisfactory ground de-icing / anti-icing

I. Passenger Handling, Baggage and Cargo

1) Significant contamination of aircraft structure, or systems and equipment arising from the carriage of baggage or cargo.
2) Incorrect loading of passengers, baggage or cargo, likely to have a significant effect on aircraft mass and/or balance.

3) Incorrect stowage of baggage or cargo (including hand baggage) likely in any way to hazard the aircraft, its equipment or occupants or to impede emergency evacuation.

4) Inadequate stowage of cargo containers or other substantial items of cargo.

5) Dangerous goods incidents.

J. Aircraft Ground Handling and Servicing

1) Failure, malfunction or defect of ground equipment used for test or checking of aircraft systems and equipment when the required routine inspection and test procedures did not clearly identify the problem when this results in a hazardous situation.

2) Noncompliance or significant errors in compliance with required servicing procedures.

3) Loading of contaminated or incorrect type of fuel or other essential fluids (including oxygen and potable water).

K. Other incidents

1) Repetitive instances of a specific type of incident which in isolation would not be considered 'reportable' but which due to the frequency at which they arise, form a potential hazard.

2) Bird strike that may have or may have not resulted in damage to the aircraft or loss or malfunction of any essential service.

3) Note: All bird strike incidents shall be reported in the Bird Strike & Wildlife Hazard module of the ROSI system.

4) Wake turbulence encounters.

5) Any other incident of any type considered to have endangered or which might have endangered the aircraft or its occupants on board the aircraft or on the ground.

II. AIRCRAFT TECHNICAL

A. Structural

Not all structural failures need to be reported. Engineering judgement is required to decide whether a failure is serious enough to be reported. The following examples can be taken into consideration:
1) Damage to a Principal Structural Element that has not been qualified as damage tolerant (life limited element). Principal Structural Elements are those which contribute significantly to carrying flight, ground, and pressurization loads, and whose failure could result in a catastrophic failure of the aircraft. Typical examples of such elements are listed for large aircrafts in EASA AMC to CS25.571 (a) "damage tolerance and fatigue evaluation of structure" and in equivalent AMC material for rotorcraft.

2) Defect or damage exceeding admissible damages to a Principal Structural Element that has been qualified as damage tolerant.

3) Damage to or defect exceeding allowed tolerances of a structural element which failure could reduce the structural stiffness to such an extent that the required flutter, divergence or control reversal margins are no longer achieved.

4) Damage to or defect of a structural element, which could result in the liberation of items of mass that may injure occupants of the aircraft.

5) Damage to or defect of a structural element, which could jeopardise proper operation of systems. See paragraph II.B. below

6) Loss of any part of the aircraft structure in flight.

B. Systems

The following generic criteria applicable to all systems are proposed:
1) Loss, significant malfunctions or defects of any system, subsystem or set of equipment when standard operating procedures, drills etc. could not be satisfactorily accomplished.

2) Inability of the crew to control the system, e.g.:
   a) uncommented actions;
   b) incorrect and or incomplete response, including limitation of movement or stiffness;
   c) runaway;
   d) Mechanical disconnection or failure.

3) Failure or malfunction of the exclusive function(s) of the system (one system could integrate several functions).

4) Interference within or between systems.

5) Failure or malfunction of the protection device or emergency system associated with the system.

6) Loss of redundancy of the system.

7) Any incident resulting from unforeseen behaviour of a system.

8) For aircraft types with single main systems, subsystems or sets of equipment: Loss, significant malfunctions or defects in any main system, subsystem or set of equipment.

9) For aircraft types with multiple independent main systems, subsystems or sets of equipment: The loss, significant malfunctions, or defects of more than one main system, subsystem or set of equipment

10) Operation of any primary warning system associated with aircraft systems or equipment unless the crew conclusively established that the indication was false provided that the false warning did not result in difficulty or hazard arising from the crew response to the warning.

11) Leakage of hydraulic fluids, fuel, oil or other fluids which resulted in a fire hazard or possible hazardous contamination of aircraft structure, systems or equipment, or risk to occupants.

12) Malfunction or defect of any indication system when this results in the possibility of misleading indications to the crew.

13) Any failure, malfunction or defect if it occurs at a critical phase of flight and relevant to the operation of that system.

14) Incidents of significant shortfall of the actual performances compared to the approved performance which resulted in a hazardous situation (taking into account the accuracy of the performance calculation method) including braking action, fuel consumption etc.

15) Asymmetry of flight controls; e.g. flaps, slats, spoilers etc.

C. Propulsion (including Engines, Propellers and Rotor Systems) and APUs

1) Flameout, shutdown or malfunction of any engine.

2) Over speed or inability to control the speed of any high speed rotating component (for example: Auxiliary power unit, air starter, air cycle machine, air turbine motor, propeller or rotor).

3) Failure or malfunction of any part of an engine or power plant resulting in any one or more of the following;

a) Non-containment of components/debris;
b) Un-controlled internal or external fire, or hot gas breakout;
c) Thrust in a different direction from that demanded by the pilot;
d) Thrust reversing system failing to operate or operating inadvertently;
e) Inability to control power, thrust or rpm;
f) Failure of the engine mount structure;
g) Partial or complete loss of a major part of the power plant;
h) Dense visible fumes or concentrations of toxic products sufficient to incapacitate crew or passengers;
i) Inability, by use of normal procedures, to shutdown an engine;
j) Inability to restart a serviceable engine.

4) An un-commanded thrust/power loss, change or oscillation which is classified as a loss of thrust or power control (LOTC):

a) For a single engine aircraft; or

b) Where it is considered excessive for the application, or
c) Where this could affect more than one engine in a multi-engine aircraft, particularly in the case of a twin engine aircraft; or
d) For a multi engine aircraft where the same, or similar, engine type is used in an application where the event would be considered hazardous or critical.

5) Any defect in a life controlled part causing retirement of before completion of its full life.

6) Defects of common origin which could cause an in flight shut down rate so high that there is the possibility of more than one engine being shut down on the same flight.

7) An engine limiter or control device failing to operate when required or operating inadvertently.

8) Exceedance of engine parameters.

9) FOD resulting in damage.

10) Propellers and –transmission: Failure or malfunction of any part of a propeller or power plant resulting in any one or more of the following:

a) An overspeed of the propeller;
b) The development of excessive drag;
c) A thrust in the opposite direction to that commanded by the pilot;
d) A release of the propeller or any major portion of the propeller;
e) A failure that results in excessive unbalance;
f) The unintended movement of the propeller blades below the established minimum in-flight low-pitch position;
g) An inability to feather the propeller;
h) An inability to command a change in propeller pitch;
i) An un-commanded change in pitch;
j) An uncontrollable torque or speed fluctuation;
k) The release of low energy parts.

11) Rotors and-transmission

a) Damage or defect of main rotor gearbox/ attachment which could lead to in-flight separation of the rotor assembly, and / or modifications of the rotor control.
b) Damage to tail rotor, transmission and equivalent systems.

12) APUs

a) Shut down or failure when the APU is required to be available by operational requirements, e.g. ETOPS, MEL.
b) Inability to shut down the APU.
c) Over speed.
d) Inability to start the APU when needed for operational reasons.

D. Human Factors

1) Any incident where any feature or inadequacy of the aircraft design could have led to an error of use that could contribute to a hazardous or catastrophic effect.

E. Other Incidents

1) Any incident where any feature or inadequacy of the aircraft design could have led to an error of use that could contribute to a hazardous or catastrophic effect.

2) An incident not normally considered as reportable (for example, furnishing and cabin equipment, water systems), where the circumstances resulted in endangering of the aircraft or its occupants.

3) A fire, explosion, smoke or toxic or noxious fumes.

4) Any other event which could affect the safety of the aircraft/occupants of the aircraft, or people or property in the vicinity of the aircraft or on the ground.

5) Failure or defect of passenger address system resulting in loss or inaudible passenger address system.

6) Loss of pilots' seat control during flight.

III. AIRCRAFT MAINTENANCE AND REPAIR

1) Incorrect assembly of parts or components of the aircraft found during an inspection or test procedure not intended for that specific purpose.

2) Hot bleed air leak resulting in structural damage.

3) Any defect in a lift controlled part causing retirement before completion of its full life.

4) Any damage or deterioration (i.e. fractures, cracks, corrosion, delaminating, dis- bonding etc.) resulting from any cause (such as flutter, loss of stiffness or structural failure) to;

a) Primary structure or a principal structural element (as defined in the manufacturers' Repair manual) where such damage or deterioration exceeds allowable limits specified in the Repair Manual and requires a repair or complete or partial replacement of the element;
b) Secondary structure which consequently has or may have endangered the aircraft;
c) The engine, propeller or rotorcraft rotor system.

5) Any failure, malfunction or defect of any system or equipment, or damage or deterioration found as a result of compliance with an Airworthiness Directive or other mandatory instruction issued by a Regulatory Authority, when;

a) It is detected for the first time by the reporting organization implementing compliance;
b) On any subsequent compliance where it exceeds the permissible limits quoted in the instruction and/or published repair/rectification procedures are not available.

6) Failure of any emergency system or equipment, including all exit doors and lighting, to perform satisfactorily, including when being used for maintenance or test purposes.

7) Non-compliance or significant errors in compliance with required maintenance procedures.

8) Suspected unapproved Products, parts, appliances and materials (Safety Alert 05-2014).

9) Misleading, incorrect or insufficient maintenance data or procedures that could lead to maintenance errors.

10) Failure, malfunction or defect of ground equipment used for test or checking of aircraft systems and equipment when the required routine inspection and test procedures did not clearly identify the problem when this results in a hazardous situation.

IV. AIR NAVIGATION SERVICES PROVIDERS

This list is in no way exhaustive and any occurrence which is believed to be a flight safety issue shall be reported.

1) ACAS Event: An incident where a resolution advisory event (RA) did or may have occurred.

2) AIRPROX: A situation in which, in the opinion of a pilot or air traffic services personnel, the distance between aircraft as well as their relative positions and speed have been such that the safety of the aircraft involved may have been compromised.

a) Risk of collision. The risk classification of an aircraft proximity in which serious risk of collision has existed
b) Safety not assured. The risk classification of an aircraft proximity in which the safety of the aircraft may have been compromised.
c) No risk of collision. The risk classification of an aircraft proximity in which no risk of collision has existed.
d) Risk not determined. The risk classification of an aircraft proximity in which insufficient information was available to determine the risk involved, or inconclusive or conflicting evidence precluded such determination.

3) ASMI Category A: An incident in which a reduction in required ATC separation occurs where the separation remaining is 25% or less of the required minimum, regardless of whether or not corrective action or an evasive response to avoid a collision was taken.

4) ASMI Category B: An incident in which a reduction in required ATC separation occurs where the separation remaining is 26% up to and including 50% of the required minimum and no ATC action is taken, or the initial action to resolve the situation was determined by the pilot or ACAS.

5) ASMI Category C: An incident in which a reduction in required separation occurs where:

a) The separation remaining is 26% up to and including 50% of the required minimum and ATC resolved the situation; or
b) The separation remaining is 51% up to and including 75% of the required minimum and no ATC action is taken, or the initial action to resolve the situation was determined by the pilot or ACAS.

6) ASMI Category D: An incident in which a reduction in required separation occurs where:

a) The separation remaining is 51% up to but not including 90% of the required minimum and ATC resolved the situation; or
b) The separation remaining is 76% or more and no ATC action is taken, or the pilot or ACAS resolved the situation.

7) ASMI Category E: An incident in which a reduction in required separation occurs where the separation remaining is 90% or more of the required minimum and ATC resolved the situation.

8) Airspace Penetration (CTA/CTR/SUA) without Clearance or Approval: An incident where an aircraft enters civil or military controlled airspace or SUA without clearance or proper authorization.

9) Apron Incident: An incident reported to ATC where the flight safety of an aircraft was or may have been affected on the apron area.

10) ATC Coordination Error: An incident where the coordination between ATC Sectors or units is not completed correctly, where the ATC coordination failure affected flight safety.

11) ATC Operational Issue: An incident, not resulting in any other category, where incorrect ATCO actions or ATC procedures affected, or may have affected flight safety.

12) ATS/AD Equipment Failure: An incident where there is a failure or irregularity of ATS or Aerodrome communication, navigation or surveillance systems or any other safety-significant systems or equipment which could adversely affect the safety or efficiency of flight operations and/or the provision of an air traffic control service.

13) Communications Failure: An incident where an aircraft experiences a total or partial communications failure.

14) Deviations from ATC Clearance (not including a Level Bust) : An incident where an aircraft fails to comply with any component of an ATC clearance, excluding a cleared altitude or flight level.

15) Emergency (other than Engine Failure or Fuel Shortage) : An incident, excluding an accident, security event, engine failure, fuel emergency or medical emergency, where a pilot declares an emergency, Mayday or Pan.

16) Engine Failure: An incident where a pilot reports he has experienced an engine failure during takeoff, in flight or landing, or reports that he has shut down an engine due to a technical problem.

17) Flight Planning Error: An incident where a flight planning error has been reported which may affect the safety of a flight.

18) FOD: An incident involving FOD detected on a runway including reported tyre bursts from aircraft which have recently operated on a runway.

a) Category A: FOD which is likely to cause damage to an aircraft on a runway or runway shoulder;
b) Category B: FOD which is likely to cause damage to an aircraft found within runway strip or RESA;
c) Category C: FOD which is likely to cause damage to an aircraft on taxiways or taxiway shoulders;
d) Category D: FOD which is likely to cause damage to an aircraft found on the taxiway strips, apron areas or elsewhere on the airfield.

19) Fuel Emergence: An incident where a pilot reports he is experiencing a minimum fuel situation which requires an emergency declaration.

20) Go-Around Event: Any go- around event, except where an aircraft intentionally goes around for training purposes.

21) Level Bust:

a) Category A: An incident where an aircraft deviates from an assigned level by 800 feet or more, and there was no loss of separation.
b) Category B: An incident where an aircraft deviates from an assigned level by 600 or 700 feet and there was no loss of separation.
c) Category C: An incident where an aircraft deviates from an assigned level by 400 or 500 feet, and there was no loss of separation.
d) Category D: An incident where an aircraft deviates from an assigned level by 300 feet or less and there was no loss of separation.

22) Loss of Runway Separation Category A: An incident in which a reduction in required runway separation occurs where:

a) A collision is narrowly avoided; or
b) The separation remaining is 25% or less of the required minimum, regardless of whether or not corrective action or an evasive response to avoid a collision was taken.

23) Loss of Runway Separation Category B: An incident in which a reduction in required runway separation occurs where:
a) A significant potential for collision which may result in a time-critical corrective evasive response to avoid a collision; or
b) The separation remaining is 26% up to and including 50% of the required minimum, and no ATC action is taken, or the initial action to resolve the situation was determined by the pilot.

24) Loss of Runway Separation Category C: An incident in which a reduction in required runway separation occurs where:
a) There is ample time or distance to avoid a potential collision; or
b) The separation remaining is 26% up to and including 50% of the required minimum, and ATC resolved the situation; or
c) The separation remaining is 51% or more of the required minimum and no ATC action is taken, or the initial action to resolve the situation was determined by the pilot.

25) Loss of Runway Separation Category D: An incident in which a reduction in required runway separation occurs where:
a) The separation remaining is 51% or more of the required minimum and ATC resolved the situation; or
b) An aircraft is in receipt of a landing or take-off clearance, while another aircraft is on the runway, and the initial action to resolve the situation was determined by the pilot.

26) LSALT/Terrain Event: An incident where an IFR aircraft is flown below a Lowest Safe Altitude (LSALT) or an ATC Minimum Radar Vectoring Altitude (MRVA)

27) LVP Violations: An incident where an aircraft conducts an operation when RVR, Met visibility and/or cloud base conditions are below the required approach minima or the aerodrome operator minima.

28) Maneuvering Area Excursion:
a) Category A: An incident in which an aircraft has an excursion from a runway – i.e. overruns, excursion off the side of the runway – resulting in damage to aircraft
b) Category B: An incident in which an aircraft has an excursion from a taxiway – excursion off the side of the taxiway – resulting in damage to aircraft

c) Category C: An incident in which an aircraft has an excursion from a runway – i.e. overruns, excursion off the side of the runway – resulting in no damage to aircraft
d) Category D: An incident in which an aircraft has an excursion from a taxiway- excursion off the side of the taxiway – resulting in no damage to aircraft.

29) Medical Emergency: An incident where a pilot reports a medical emergency requiring a diversion or priority track or landing due to a sick or injured passenger or crew member.

30) Military Due Regard Event: An incident where actions of a military aircraft under limited civil ATC control results in a situation where flight safety in controlled airspace is or may have been compromised.

31) Non-compliance with climb gradient: An incident where an aircraft fails to comply with the published minimum departure climb gradient requirement.

32) Operator complaint or operational issue (not resulting in any other category) : An incident involving:
a) A direct operational related complaint or query received from an operator or State; or
b) An ATC issue with an operator

33) Runway Incursion Category A: A serious incident in which a collision is narrowly avoided.

34) Runway Incursion Category B: A runway incursion in which the separation decreases and there is a significant potential for collision, which may result in a time-critical corrective/evasive response to avoid a collision. This includes a runway incursion occurring while a departing aircraft has commenced its take-off roll or an arriving aircraft has crossed the threshold.

35) Runway Incursion Category C: A runway incursion characterized by ample time and/or distance to avoid a collision, including a runway incursion occurring while a departing aircraft has been cleared to line up, or cleared for take-off or an arriving aircraft has been cleared to land but has not crossed the threshold.

36) Runway Incursion Category D: A runway incursion that meets the definition of a runway incursion such as the incorrect presence of a vehicle, person or aircraft on the protected area of a surface designated for the landing and take-off of aircraft but with no immediate safety consequences.

37) Runway Incursion Category E: Insufficient information or inconclusive or conflicting evidence precludes a severity assessment.

38) Runway Operation Incident An incident occurring on a runway, where operational safety was or may have been affected, excluding a runway incursion, such as
a) an aircraft conducts an operation on a runway without proper authority, e.g. conducting a take-off or landing on an operational or closed runway without a clearance; or
b) attempting a take-off or landing from a taxiway not approved for such an operation.

39) Security Event: An incident involving a security event relating to an aircraft, which may adversely affect flight safety, such as a Hijack, Bomb Warning or an unruly passenger, which results in a request for a priority diversion or landing, or the attendance to an aircraft by security personnel.

40) Taxiway Incursions

41) Technical Problem: An incident excluding a declared emergency where a pilot reports an aircraft technical problem.

42) Visual Hazard Report: An incident where a pilot or ATC unit becomes aware of a situation involving a light source, including laser, spotlights or pyrotechnics, where flight safety was or may have been compromised

43) Wake Turbulence Event: An incident relating to a pilot's report of turbulence, or its effects, from another aircraft's wake, excluding a reduction of required wake turbulence separation.

V. AERODROMES

1) Maneuvering Area Excursion - Category A - An incident in which an aircraft has an excursion from a runway – i.e. overruns, excursion off the side of the runway – resulting in damage to aircraft.

2) Maneuvering Area Excursion - Category B - An incident in which an aircraft has an excursion from a taxiway – excursion off the side of the taxiway – resulting in damage to aircraft.

3) Maneuvering Area Excursion - Category C - An incident in which an aircraft has an excursion from a runway – i.e. overruns, excursion off the side of the runway – resulting in no damage to aircraft.

4) Maneuvering Area Excursion - Category D - An incident in which an aircraft has an excursion from a taxiway – excursion off the side of the taxiway – resulting in no damage to aircraft.

5) FOD Category A - FOD which is likely to cause damage to an aircraft on runway or runway shoulder.

6) FOD Category B - FOD which is likely to cause damage to an aircraft found within runway strip or RESA.

7) Aircraft Damage Category A - Destroyed – Aircraft is unlikely to ever fly again – total write off.

8) Aircraft Damage Category B - Substantially Damaged – Major damage that prevents the aircraft from flight until significant maintenance is undertaken.
9) Aircraft Damage Category C - Minor Damage – Minor damage that prevents the aircraft from immediate flight and requires some maintenance to rectify.

10) Runway Incursion - Category A - A serious incident in which a collision is narrowly avoided.

11) Runway Incursion - Category B - A Runway Incursion incident in which the separation decreases and there is a significant potential for collision, which may result in a time critical corrective / evasive response to avoid a collision, including a runway incursion occurring while a departing aircraft has commenced its take-off roll or an arriving aircraft has crossed the threshold.

12) Runway Incursion - Category C - A Runway Incursion incident characterised by ample time and/or distance to avoid a collision, including a runway incursion occurring while a departing aircraft has been cleared to line up, or cleared for take-off, or an arriving aircraft has been cleared to land but has not crossed the threshold.

13) Runway Incursion - Category D - A Runway Incursion incident that meets the definition of a runway incursion such as the incorrect presence of a single vehicle, person or aircraft on the protected area of a surface designated for the landing and take-off of aircraft but with no immediate safety consequences.

14) Bird & Wildlife Hazard - Category A - An incident where a pilot experiences wildlife striking an aircraft resulting in significant damage to the aircraft and or requiring an aborted take-off, in-flight diversion, prioritized landing or resulting in an accident.

15) Bird & Wildlife Hazard - Category B - An incident where a pilot reports an actual or potential wildlife strike, which does not result in significant damage or adversely affect the flight.

16) Bird & Wildlife Hazard - Category C - An incident where dead wildlife is found on the runway when a strike has not been reported by a pilot.

17) Taxiway Incursion Category A: A Taxiway Incursion incident in which there is a potential for collision with an aircraft, which results in a corrective/evasive response to avoid a collision.

18) Taxiway Incursion Category B: A Taxiway Incursion incident that meets the definition of a taxiway incursion such as the incorrect presence of a vehicle, person or aircraft on the taxiway or within the taxiway strip with no safety consequence.

VI. REPORTABLE INCIDENT TO SPECIFIC SYSTEMS

The following subparagraphs give examples of reportable incidents resulting from the application of the generic criteria to specific systems:

1) Air conditioning/ventilation
   a) Complete loss of avionics cooling;
   b) depressurization

2) Auto-flight system
   a) Failure of the auto-flight system to achieve the intended operation while engaged
   b) Significant reported crew difficulty to control the aircraft linked to auto-flight system functioning
   c) Failure of any auto-flight system disconnect device
   d) Un-commanded auto-flight mode change

3) Communications
   a) Failure or defect of Passenger Address System resulting in loss or inaudible passenger address;
   b) Total loss of communication in flight.

4) Electrical system
   a) loss of one electrical system distribution system (AC or DC)
   b) total loss or loss or more than one electrical generation system
   c) failure of the backup (emergency) electrical generating system

5) Cockpit/Cabin/Cargo
   a) Pilot seat control loss during flight;
   b) Failure of any emergency system or equipment, including emergency evacuation signalling system, all exit doors, emergency lighting, etc.;
   c) Loss of retention capability of the cargo loading system.

6) Fire protection system
   a) Fire warnings, except those immediately confirmed as false;
   b) Undetected failure or defect of fire/smoke detection/protection system, which could lead to loss or reduced fire detection/protection;

c) Absence of warning in case of actual fire or smoke.

7) Flight controls
   a) Asymmetry of flaps, slats, spoilers etc.;
   b) Limitation of movement, stiffness or poor or delayed response in the operation of primary flight control systems or their associated tab and lock systems;
   c) Flight control surface run away;
   d) Flight control surface vibration felt by the crew;
   e) Mechanical flight control disconnection or failure;
   f) Significant interference with normal control of the aircraft or degradation of flying qualities;

8) Fuel system
   a) fuel quantity indicating system malfunction resulting in total loss or erroneous indicated fuel quantity on board;
   b) leakage of fuel which resulted in major loss, fire hazard , significant contamination;
   c) malfunction or defects of the fuel jettisoning system which resulted in inadvertent loss of significant quantity, fire hazard, hazardous contamination of aircraft equipment or inability to jettison fuel;
   d) fuel system malfunctions or defects which had a significant effect on fuel supply and/or distribution;
   e) inability to transfer or use total quantity of usable fuel;

9) Hydraulics
   a) loss of one hydraulic system (ETOPS only)
   b) failure of the isolation system to operate
   c) loss of more than one hydraulic circuits
   d) failure of the backup hydraulic system
   e) inadvertent Ram Air Turbine extension

10) Ice detection/protection system
   a) undetected loss or reduced performance of the anti-ice/de-ice system
   b) loss of more than one of the probe heating systems
   c) inability to obtain symmetrical wing de icing
   d) abnormal ice accumulation leading to significant effects on performance or handling qualities
   e) crew vision significantly affected

11) Indicating/warning/recording systems
   a) malfunction or defect of any indicating system when the possibility of significant misleading indications to the crew could result in an inappropriate crew action on an essential system
   b) loss of a red warning function on a system
   c) For glass cockpits: loss or malfunction of more than one display unit or computer involved in the display/warning function.

12) Landing gear system /brakes/tyres
   a) Brake fire
   b) Significant loss of braking action
   c) Unsymmetrical braking leading to significant path deviation
   d) Failure of the L/G free fall extension system (including during scheduled tests)
   e) Unwanted gear or gear doors extension/retraction
   f) Multiple tyres burst

13) Navigation systems (including precision approaches system) and air data systems
   a) Total loss or multiple navigation equipment failures;
   b) Total failure or multiple air data system equipment failures;
   c) Significant misleading indication;
   d) Significant navigation errors attributed to incorrect data or a database coding error;
   e) Unexpected deviations in lateral or vertical path not caused by pilot input;
   f) Problems with ground navigational facilities leading to significant navigation errors not associated with transitions from inertial navigation mode to radio navigation mode.

14) Oxygen
   a) for pressurized aircraft: loss of oxygen supply in the cockpit;
   b) loss of oxygen supply to a significant number of passengers (more than 10%), including when found during maintenance or training or test purposes.

15) Bleed air system
   a) Hot bleed air leak resulting in fire warning or structural damage;
   b) Loss of all bleed air systems;
   c) Failure of bleed air leak detection system.

APPENDIX E

RASG-MID SAFETY ADVISORY – 19

(RSA-19)

7 November 2022

MID-Region

Guidance Material for SMS Assessment

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These guidelines are developed by the Safety Enhancement Implementation Group (SEIG), as part of MID Region Aviation Safety Plan (MID-RASP) 2020-2022 Edition Safety Enhancement Initiatives (Ref: G5-SEI-01: A6) based on the work of the UAE General Civil Aviation Authority in coordination with ICAO MID Regional Office and the Regional Aviation Safety Group - Middle East (RASG-MID).

Disclaimer

This document is intended to provide guidance for civil aviation authorities in order to support States' on developing and conducting an SMS oversight on their Service providers.
This document has been also compiled by members of the aviation industry to improve aviation safety at the regional level. It is not intended to supersede or replace existing materials produced by the State or in ICAO SARPs. The distribution or publication of this document does not prejudice the State's ability to enforce existing National regulations. To the extent of any inconsistency between this document and the National/International regulations, standards, recommendations or advisory publications, the content of the National/International regulations, standards, recommendations and advisory publications should prevail.

REFERENCE :		
TITLE :	**GUIDANCE - SMS ASSESSMENT**	

INFORMATION					
Assessment Title :		**Compliance** ☐	**Effectiveness** ☐	**Assessment Date :**	
Organization :				**Certificate No.**	
Post Holder Name :		**Title:**		**Present** ☐ **Absent** ☐	
Delegated / Representative:		**Title:**			
Assessment Team:	**Lead:**	**SME:**		**Member 1:**	
	Member 2:	**Member 3:**		**Member 4:**	

Assessment Criteria			
Applicable Regulations (LOCAL):		**Additional Applicable References**	
Applicable Manual/s:			

ASSESSMENT SUMMARY

1. SAFETY POLICY AND OBJECTIVES 1.1

MANAGEMENT COMMITMENT

ICAO References	Local Requirements - *(Local Regulation Reference)*.
1. Annex 19 Appendix 2 Page APP 2-2 2. DOC 9859 4th edition Ch. 9 / 9.3	**(Adopted from UAE GCAA References).** The service provider shall define its safety policy in accordance with ***(Local Regulation Reference)***. The safety policy shall: 1) include a clear statement about the provision of the necessary resources for the implementation of the safety policy; 2) be signed by the accountable executive of the organization; 3) be periodically reviewed to ensure it remains relevant and appropriate to the service provider.

	Compliance and Performance Indicators (Adopted from CASA) **Attribution: Material obtained is attributed to CASA as SMS Evaluation Tool and Guidance © Civil Aviation Safety Authority 2021.**	**P**	**S**	**O**	**E**	**Remarks**
1.1.1	There is a safety policy, signed by the Accountable Manager, which includes a commitment to continuous improvement; observe all applicable legal requirements and standards; and considers best practices.					
1.1.2	The safety policy includes a statement to provide appropriate resources and the organization is managing resources by anticipating and addressing any shortfalls.					
1.1.3	There are policies in place for safety critical roles relating to all aspects of Fitness for Duty (for example, Alcohol and Drugs Policy or Fatigue).					

	Present	**Suitable**	**Operating**	**Effective**
Guidance	There is a safety policy, signed by the Accountable Manager, which includes a commitment to continuous improvement; observes all applicable legal requirements and standards; and considers best practices. The safety policy includes a statement to provide appropriate resources	The safety policy is easy to read. The content is customized to the organization. There is a process for assessing resources and addressing any shortfalls.	The safety policy is reviewed periodically to ensure it remains relevant to the organization. The organization is assessing the resources being provided to deliver a safe service and taking action to address any shortfalls.	The Accountable Executive is familiar with the contents of the safety policy and endorses it. The organization is reviewing and taking action to address any forecasted shortfalls in resources.

ICAO References	Local Requirements - *(Local Regulation Reference)*.
1. Annex 19 Appendix 2 Page APP 2-2 2. DOC 9859 4th edition Ch. 9 / 9.3	**(Adopted from UAE GCAA References).** The safety policy shall : 4) reflect organizational commitment regarding safety; 5) be communicated, with visible endorsement, throughout the organization;

Compliance and Performance Indicators (Adopted from CASA) **Attribution: Material obtained is attributed to CASA as SMS Evaluation Tool and Guidance © Civil Aviation Safety Authority 2021.**		**P**	**S**	**O**	**E**	**Remarks**
1.1.4	There is a means in place for the communication of the safety policy.					
1.1.5	The Accountable Executive and the senior management team promote a positive safety/just culture and demonstrate their commitment to the safety policy through active and visible participation in the safety management system.					

	Present	**Suitable**	**Operating**	**Effective**
Guidance	There is a means in place for the communication of the safety policy. The management commitment to safety is documented within the safety policy.	The safety policy is clearly visible to all staff (consider multiple sites). The safety policy is understandable (consider multiple languages). The Accountable Executive and the senior management team have a well-defined role in the safety management system.	The safety policy is communicated to all personnel (including relevant contract staff and organizations). The Accountable Executive and the senior management team are promoting their commitment to the safety policy through active and visible participation in the safety management system.	Staff across the organization are familiar with the policy and can describe their obligations in respect of the safety policy. Decision making, actions, and behaviors reflect a positive safety/just culture and there is good safety leadership that demonstrates commitment to the safety policy.

ICAO References	Local Requirements - *(Local Regulation Reference)*.
1. Annex 19 Appendix 2 Page APP 2-2 2. DOC 9859 4th edition Ch. 9 / 9.3	**(Adopted from UAE GCAA References).** The safety policy shall: 6) establish a non-punitive approach which supports safety reporting and encourages an open reporting culture for the purpose of safety improvement, not to apportion blame; 7) Clearly indicate which types of behaviors are unacceptable related to the service provider's aviation activities and include the circumstances under which disciplinary action would not apply.

Compliance and Performance Indicators (Adopted from CASA) **Attribution: Material obtained is attributed to CASA as SMS Evaluation Tool and Guidance © Civil Aviation Safety Authority 2021.**		**P**	**S**	**O**	**E**	**Remarks**
1.1.6	The safety policy actively encourages safety reporting.					
1.1.7	A just culture policy and principles have been defined that clearly identifies acceptable and unacceptable behaviors to promote a just culture.					

Guidance	**Present**	**Suitable**	**Operating**	**Effective**
	A Just Culture Policy and principles have been defined.	The just culture policy clearly identifies acceptable and unacceptable behaviors. The principles ensure that the policy can be applied consistently across the whole organization. The just culture policy and principles are understandable and clearly visible.	There is evidence of the Just Culture policy and supporting principles being applied and promoted to staff.	The Just Culture policy is applied in a fair and consistent manner and staff trust the policy. There is evidence that the line between acceptable and unacceptable behavior has been determined based in best practice.

ICAO References	Local Requirements - *(Local Regulation Reference)*.
1. Annex 19 Appendix 2 Page APP 2-2 2. DOC 9859 4th edition Ch. 9 / 9.3	**(Adopted from UAE GCAA References).** 8) Safety objectives identify what the organization intends to achieve in terms of safety management and they are expressed as a top-level statement describing the organization's commitment to achieving safety. 9) The safety objectives are linked with the Safety Performance Indicators, targets and mitigation plans.

	Compliance and Performance Indicators (Adopted from CASA) **Attribution: Material obtained is attributed to CASA as SMS Evaluation Tool and Guidance © Civil Aviation Safety Authority 2021.**	**P**	**S**	**O**	**E**	**Remarks**
1.1.8	Safety objectives have been established that are consistent with the safety policy and they are communicated throughout the organization.					
1.1.9	The State Safety Program (SSP) is being considered and addressed as appropriate.					

	Present	**Suitable**	**Operating**	**Effective**
Guidance	Safety objectives have been established that are consistent with the safety policy and there is a means to communicate them throughout the organization.	Safety objectives are relevant to the organization and its activities. Safety objectives are understandable and clearly visible. Safety objectives are aligned with the SSP.	Safety objectives are being regularly reviewed and are communicated throughout the organization.	Achievement of the safety objectives is being monitored by senior management and action taken to ensure they are being met.

1.2 SAFETY ACCOUNTABILITY AND RESPONSIBILITIES

ICAO References	Local Requirements - *(Local Regulation Reference)*.
1. Annex 19 Appendix 2 Page APP 2-2 2. DOC 9859 4th edition Ch. 9 / 9.3.5	**(Adopted from UAE GCAA References).** The organization shall : 1) identify the Accountable Manager who has full control of the resources, final authority over operations under the certificate approval of the organization. 2) S/He shall have ultimate responsibility and accountability for the establishment, implementation and maintenance of the SMS; safety policies and the resolution of all safety issues.

	Compliance and Performance Indicators (Adopted from CASA) **Attribution: Material obtained is attributed to CASA as SMS Evaluation Tool and Guidance © Civil Aviation Safety Authority 2021.**	**P**	**S**	**O**	**E**	**Remarks**
1.2.1	An Accountable Executive has been appointed with full responsibility and accountability to ensure the SMS is properly implemented and performing effectively.					
1.2.2	The Accountable Executive is fully aware of their SMS roles and responsibilities in respect of the safety policy, safety standards, and safety culture of the organization.					

	Present	**Suitable**	**Operating**	**Effective**
Guidance	An accountable Manager has been appointed with full responsibility and ultimate accountability for the SMS.	The Accountable Executive has control of resources.	The accountable manager ensures that the SMS is properly resourced, implemented and maintained and has the authority to stop the operation if there is an unacceptable level of safety risk. The Accountable Executive is fully aware of their SMS roles and responsibilities. The Accountable Executive is accessible to the staff in the organization.	The accountable manager ensures that the performance of the SMS is being monitored, reviewed and improved.

ICAO References	Local Requirements - *(Local Regulation Reference)*.
1. Annex 19 Appendix 2 Page APP 2-2 2. DOC 9859 4th edition Ch. 9 / 9.3.5	**(Adopted from UAE GCAA References).** The organization shall: b) clearly define lines of safety accountability throughout the organization, including a direct accountability for safety on the part of senior management; c) identify the responsibilities of all members of management, irrespective of other functions, as well as of employees, with respect to the safety performance of the SMS; d) document and communicate safety responsibilities, accountabilities and , and authorities throughout the organization; and e) define the levels of management with authority to make decisions regarding safety risk tolerability.

Compliance and Performance Indicators (Adopted from CASA) **Attribution: Material obtained is attributed to CASA as SMS Evaluation Tool and Guidance © Civil Aviation Safety Authority 2021.**		**P**	**S**	**O**	**E**	**Remarks**
1.2.3	Safety accountabilities, authorities, and responsibilities are defined and documented throughout the organization and staff understand their own responsibilities.					

	Present	**Suitable**	**Operating**	**Effective**
Guidance	The safety accountability, authorities and responsibilities are clearly defined and documented.	Individuals have access to their safety accountability, authorities, and responsibilities (for example, through job descriptions or organizational charts).	Everyone in the organization is aware of and fulfil their safety responsibilities, authorities and accountabilities and encouraged to contribute to the SMS.	The Accountable Manager and the senior management team are aware of the risks faced by the organization and SMS principles exist throughout the organization so that safety is part of the everyday language.

1.3 APPOINTMENT OF KEY PERSONNEL

ICAO References	Local Requirements - *(Local Regulation Reference)*.
1. Annex 19 Appendix 2 Page APP 2-3 **2**. DOC 9859 4th edition Ch. 9 / 9.3.6	**(Adopted from UAE GCAA References).** The organization shall appoint a properly educated, trained and experienced person who fulfils the role of Post Holder SMS for the development and maintenance of an effective Safety Management System.

	Compliance and Performance Indicators (Adopted from CASA) **Attribution: Material obtained is attributed to CASA as SMS Evaluation Tool and Guidance © Civil Aviation Safety Authority 2021.**	**P**	**S**	**O**	**E**	**Remarks**
1.3.1	A competent safety manager who is responsible for the implementation and maintenance of the SMS has been appointed with a direct reporting line to the Accountable Executive.					
1.3.2	The organization has allocated sufficient resources to manage the SMS including, but not limited to, competent staff for safety investigation, analysis, auditing, and promotion.					

	Present	**Suitable**	**Operating**	**Effective**
Guidance	A Safety Manager who is responsible for the implementation and maintenance of the SMS has been appointed with a direct reporting line with the Accountable Manager.	The Safety Managers is competent. Sufficient time and resources are allocated to maintain the SMS.	The Safety Manager has implemented and is maintaining the SMS. The Safety Manager is in regular communication with the Accountable Manager and escalates safety issues when appropriate. The Safety Manager is accessible to staff in the organization.	The Safety Manager is competent to manage the SMS and identifies improvements in a timely manner. There is a close working relationship with the Accountable Manager and the Safety Manager is considered a trusted advisor and given appropriate status in the organization.

ICAO References	Local Requirements - *(Local Regulation Reference)*.
1. Annex 19 Appendix 2 Page APP 2-3 **2**. DOC 9859 4th edition Ch. 9 / 9.3.6	**(Adopted from UAE GCAA References)** - Depending on size, complexity and nature the organization may need to establish a Safety Review Board (SRB) which is a high level committee that considers matters of strategic safety importance in support of the Accountable Manager's safety accountability. - Organizations may establish a Safety Action Group to achieve the established performance, which reports to and takes strategic direction from the SRB.

Compliance and Performance Indicators (Adopted from CASA) **Attribution: Material obtained is attributed to CASA as SMS Evaluation Tool and Guidance © Civil Aviation Safety Authority 2021.**		**P**	**S**	**O**	**E**	**Remarks**
1.3.3	The organization has established appropriate safety committee(s) that discuss and address safety risks and compliance issues and includes the Accountable Executive and the heads of functional areas.					

	Present	**Suitable**	**Operating**	**Effective**
Guidance	The organization has established safety committee(s).	Safety committee(s)' structure and frequency supports the SMS functions across the organization. The scope of the safety committee(s) includes safety risks and compliance issues. The attendance of the highest-level safety committee includes at least the Accountable Executive and the heads of functional areas.	There is evidence of meetings taking place detailing the attendance, discussions, and actions. The safety committee(s) monitor the effectiveness of the SMS and compliance monitoring function by reviewing there are sufficient resources. Actions are being monitored and appropriate safety objectives and SPIs have been established.	Safety committees include key stakeholders. The outcomes of the meetings are documented and communicated and any actions are agreed, taken, and followed up in a timely manner. The safety performance and safety objectives are reviewed and actioned as appropriate.

1.4 CO-ORDINATION OF EMERGENCY RESPONSE PLANNING

ICAO References	Local Requirements - *(Local Regulation Reference)*.
1. Annex 19 Appendix 2 Page APP 2-3 **2**. DOC 9859 4th edition Ch. 9 / 9.3.7	**(Adopted from UAE GCAA References)** The organization shall ensure that the Emergency Response Plan (ERP) is properly coordinated with the Emergency Response Plans of those organizations it must interface with during the provision of its services.

	Compliance and Performance Indicators (Adopted from CASA) **Attribution: Material obtained is attributed to CASA as SMS Evaluation Tool and Guidance © Civil Aviation Safety Authority 2021.**	**P**	**S**	**O**	**E**	**Remarks**
1.4.1	An appropriate emergency response plan (ERP) has been developed and distributed that defines the procedures, roles, responsibilities, and actions of the various organizations and key personnel.					
1.4.2	The ERP is periodically tested for the adequacy of the plan and the results reviewed to improve its effectiveness.					

	Present	**Suitable**	**Operating**	**Effective**
Guidance	An coordinated emergency response plan (ERP) has been developed and distributed.	The ERP defines the procedures, roles, responsibilities, and actions of the various organizations and key personnel. The frequency and methods for testing the ERP are defined. The coordination with other organizations (including no aviation organizations) is defined with appropriate means.	The ERP is reviewed and tested to make sure it remains up to date. Key personnel have easy access to the relevant parts of the ERP at all times. There is evidence of coordination with other organizations as appropriate.	The results of the ERP review and testing are assessed and actioned to improve its effectiveness.

1.5 SMS DOCUMENTATION

ICAO References	Local Requirements - *(Local Regulation Reference)*.
1. Annex 19 Appendix 2 Page APP 2-3 **2**. DOC 9859 4th edition Ch. 9 / 9.3.8	**(Adopted from UAE GCAA References)** (a) The organization shall develop an SMS Manual endorsed by the Accountable Manager and acceptable to the Authority. (b) The organization shall establish a system of record keeping that allows adequate storage and reliable traceability of all records related to SMS processes.

	Compliance and Performance Indicators (Adopted from CASA) **Attribution: Material obtained is attributed to CASA as SMS Evaluation Tool and Guidance © Civil Aviation Safety Authority 2021.**	**P**	**S**	**O**	**E**	**Remarks**
1.5.1	The SMS documentation includes the policies and processes that describe the organization's safety management system and processes and is readily available to all relevant personnel.					
1.5.2	SMS documentation, including SMS related records, are regularly reviewed and updated with appropriate version control in place.					

Guidance	**Present**	**Suitable**	**Operating**	**Effective**
	The SMS documentation includes the policies and processes that describe the organization's SMS and processes. The SMS documentation defines the SMS outputs and which records of SMS activities will be stored. Records to be stored, storage period, and location are identified.	The ERP defines the procedures, roles, responsibilities, and actions of the various organizations and key personnel. The frequency and methods for testing the ERP are defined. The coordination with other organizations (including no aviation organizations) is defined with appropriate means.	The ERP is reviewed and tested to make sure it remains up to date. Key personnel have easy access to the relevant parts of the ERP at all times. There is evidence of coordination with other organizations as appropriate.	SMS documentation is proactively reviewed for improvement. SMS records are routinely used as inputs for safety management-related tasks and continuous improvement of the SMS.

2. SAFETY RISK MANAGEMENT

2.1 HAZARD IDENTIFICATION

ICAO References	Local Requirements - *(Local Regulation Reference)*.
1. Annex 19 Appendix 2 Page APP 2-3 **2**. DOC 9859 4th edition Ch. 9 / 9.4.4 & 9.4.5	**(Adopted from UAE GCAA References) – Hazard Identification & Service provider safety investigation** In order to ensure continuity of data flow through internal safety reporting systems, the organization shall ensure that it effectively implements the non-punitive approach. Organizations should establish internal confidential reporting channels to maximize data capturing.

	Compliance and Performance Indicators (Adopted from CASA) **Attribution: Material obtained is attributed to CASA as SMS Evaluation Tool and Guidance © Civil Aviation Safety Authority 2021.**	P	S	O	E	Remarks
2.1.1	There is a confidential safety reporting system to capture errors, hazards, and near misses that is simple to use and accessible to all staff.					
2.1.2	The safety reporting system provides feedback to the reporter of any actions taken (or not taken) and, where appropriate, to the rest of the organization.					
2.1.3	Safety investigations are carried out to identify underlying causes and potential hazards for existing and future operations.					
2.1.4	Safety reports are acted on in a timely manner.					

2.1.5	Personnel responsible for investigating reports are trained in investigation techniques.					
2.1.6	Investigations establish causal/contributing factors (why it happened, not just what happened)					
2.1.7	Personnel express confidence and trust in the organization's reporting policy.					

Guidance	Present	Suitable	Operating	Effective
	There is a confidential reporting system to capture mandatory occurrences and voluntary reports that includes a feedback system and stored on a database. The process identifies how reports are actioned, and timescales are specified and addressed.	The reporting system is accessible and easy to use by all personnel. Responsibilities, timelines, and format for the feedback are meaningful and well defined. Data protection and confidentiality is ensured.	The reporting system is being used by all staff. There is feedback to the reporter of any actions taken (or not taken) and, where appropriate, to the rest of the organization. Reports are evaluated, processed, analyzed, and stored. Reports are processed within the defined timescales.	There is a healthy reporting system based on the volume of reporting and the quality of reports received. Safety reports are acted on in a timely manner. Staff express confidence and trust in the organizations' reporting policy and process. The reporting system is being used to make better management decisions and continuously improve. The reporting system is available for third parties to report (partners, suppliers, and contractors).

ICAO References	Local Requirements - *(Local Regulation Reference)*.
1. Annex 19 Appendix 2 Page APP 2-3 **2**. DOC 9859 4th edition Ch. 9 / 9.4.4 & 9.4.5	**(Adopted from UAE GCAA References)** The organization shall develop, implement and maintain a process that ensures that hazards associated with its aviation products or services are identified. In addition to the proactive and reactive methods of safety data collection the organization should employ where practical predictive methodologies which could arrest risks from potential hazards.

Compliance and Performance Indicators (Adopted from CASA) **Attribution: Material obtained is attributed to CASA as SMS Evaluation Tool and Guidance © Civil Aviation Safety Authority 2021.**		**P**	**S**	**O**	**E**	**Remarks**
2.1.8	There is a process that defines how hazards are identified from multiple sources through reactive and proactive methods (internal and external).					
2.1.9	The hazard identification process identifies human performance related hazards.					
2.1.10	There is a process in place to analyze safety data and safety information to look for trends and gain useable management information.					

	Present	**Suitable**	**Operating**	**Effective**
Guidance	There is a process that defines how hazards are identified though reactive and proactive methods. The triggers for safety investigations are defined.	Multiple sources of hazards (internal and external) are considered and reviewed, as appropriate. Hazards are documented in an easy-to understand format. The level of sign-off for safety investigations is defined and commensurate with the level of risk. The data analysis process enables gaining useable safety information.	The hazards are identified and documented. Human and organizational factors related to hazards are being identified. Safety investigations are carried out and recorded.	The organization is continuously and proactively identifying hazards related to its activities and the operational environment and involves all key personnel and appropriate stakeholders including external organizations. Hazards are continuously assessed in a systematic and timely manner. A register of the hazards that is maintained and reviewed to ensure it remains up-to-date. Safety investigations identify causal/contributing factors that are acted upon.

2.2 SAFETY RISK ASSESSMENT AND MITIGATION

ICAO References	Local Requirements - *(Local Regulation Reference)*.
1. Annex 19 Appendix 2 Page APP 2-3 **2**. DOC 9859 4th edition Ch. 9 /9.4.6	**(Adopted from UAE GCAA References)** The organization shall develop, implement and maintain a process that ensures analysis, assessment and acceptable control of the safety risks associated with identified hazards.

	Compliance and Performance Indicators (Adopted from CASA) **Attribution: Material obtained is attributed to CASA as SMS Evaluation Tool and Guidance © Civil Aviation Safety Authority 2021.**	**P**	**S**	**O**	**E**	**Remarks**
2.2.1	There is a structured process for the management of risk that includes the assessment of risk associated with identified hazards expressed in terms of likelihood and severity.					
2.2.2	There are criteria for evaluating the level of risk the organization is willing to accept and risk assessments and ratings are appropriately justified.					

	Present	**Suitable**	**Operating**	**Effective**
Guidance	There is a process for the analysis and assessment of safety risks. The level of risk the organization is willing to accept is defined.	Organization has tailored and defined it´s severity and likelihood criteria to fit it´s actual circumstances. Risk assessment and mitigation responsibilities, rights and time-lines are clearly defined in the risk assessment and mitigation process and practical based on the size and complexity of the organization.	Risk analysis and assessments are carried out in a consistent manner based on the defined process. The defined risk acceptability is being applied.	Risk analysis and assessments are reviewed for consistency and to identify improvements in the processes. Risk assessments are regularly reviewed to ensure they remain current. Risk acceptability criteria are used routinely and applied in management decision making processes and are regularly reviewed.

ICAO References	Local Requirements - *(Local Regulation Reference)*.
1. Annex 19 Appendix 2 Page APP 2-3 **2**. DOC 9859 4th edition Ch. 9 /9.4.6	**(Adopted from UAE GCAA References)** The organization shall develop, implement and maintain a process that ensures analysis, assessment and acceptable control of the safety risks associated with identified hazards.

Compliance and Performance Indicators **Attribution: Material obtained is attributed to CASA as SMS Evaluation Tool and Guidance © Civil Aviation Safety Authority 2021.**		P	S	O	E	Remarks
2.2.3	The organization has a process in place to make decisions and apply appropriate and effective risk controls.					
2.2.4	Senior management have visibility of medium and high risk hazards and their mitigation and controls.					

	Present	Suitable	Operating	Effective
Guidance	The organization has a process in place to decide and apply risk controls.	Responsibilities and timelines for determining and accepting the risk controls are defined.	Appropriate risk controls are being applied to reduce the risk to an acceptable level including timelines and allocation of responsibilities. Human Factors are considered as part of the development of risk controls.	Risk controls are practical and sustainable, applied in a timely manner, and do not create additional risks. Risk controls take Human Factors into consideration.

3. SAFETY ASSURANCE

3.1 SAFETY PERFORMANCE MONITORING AND MEASUREMENT

ICAO References	Local Requirements - *(Local Regulation Reference)*.
1. Annex 19 Appendix 2 Page APP 2-4 **2**. DOC 9859 4th edition Ch. 9 /9.5	**(Adopted from UAE GCAA References)** The organization shall establish safety performance monitoring and measurement processes by the establishment of Safety Performance Indicators (SPI) and Safety Performance Targets (SPT) to verify its safety performance and validate the effectiveness of the safety risk controls.

Compliance and Performance Indicators **Attribution: Material obtained is attributed to CASA as SMS Evaluation Tool and Guidance © Civil Aviation Safety Authority 2021.**		P	S	O	E	Remarks
3.1.1	Safety performance indicators (SPIs) linked to the organization's safety objectives have been defined, promulgated, and are being monitored and analyzed for trends.					
3.1.2	The organization uses a combination of leading and lagging indicators to measure the safety performance of the organization					

Guidance	Present	Suitable	Operating	Effective
	There is a process in place to measure the safety performance of the organization including SPIs and targets linked to the organization's safety objectives and to measure the effectiveness of safety risk controls.	SPIs are focused on what is important rather than what is easy to measure. Reliability of data sources is considered in the design of SPIs. SPIs are linked to the identified risks and safety objectives. Frequency and responsibility for the trend monitoring of SPIs are appropriate. Realistic targets have been set. State SPIs are considered, as applicable.	The safety performance of the organization is being measured and meaningful SPIs are being continuously monitored and analyzed for trends.	SPIs are demonstrating the safety performance of the organization and the effectiveness of risk controls based on reliable data. SPIs are reviewed and regularly updated to ensure they remain relevant. Where the SPIs indicate that a risk control is ineffective, appropriate action is taken.

ICAO References	Local Requirements - *(Local Regulation Reference)*.
1. Annex 19 Appendix 2 Page APP 2-4 **2**. DOC 9859 4th edition Ch. 9 /9.5	**(Adopted from UAE GCAA References)** - The organization shall develop, document and maintain safety assurance processes to ensure that the safety risks controls established as a consequence of the hazard identification and risk management activities achieve their intended objectives. - Safety assurance consists of processes and activities undertaken by the organization to determine whether the SMS is operating according to expectations and requirements.

Compliance and Performance Indicators **Attribution: Material obtained is attributed to CASA as SMS Evaluation Tool and Guidance © Civil Aviation Safety Authority 2021.**		P	S	O	E	Remarks
3.1.3	Risk mitigations and controls are being verified/audited to confirm they are working and effective.					
3.1.4	Safety audits and surveys are carried out that focus on the safety performance of the organization and its services and assess normal operations.					
3.1.5	Safety Assurance and Compliance Monitoring activities feed back into the hazard identification and risk management process.					
3.1.6	Safety assurance takes into account activities carried out by all directly contracted organizations.					

Guidance	Present	Suitable	Operating	Effective
	There is a process in place to assess whether the risk controls are applied and effective.	Responsibilities, methods, and timelines for assessing risk controls are defined. Contracted organizations are included in the safety assurance process.	Risk controls are being verified to assess whether they are applied and effective.	Risk controls are assessed and actions taken to ensure they are effective and delivering a safe service.

3.2 MANAGEMENT OF CHANGE

ICAO References	Local Requirements - *(Local Regulation Reference)*.
1. Annex 19 Appendix 2 Page APP 2-4 **2**. DOC 9859 4th edition Ch. 9 /9.5.5	**(Adopted from UAE GCAA References)** The organization shall develop, document and maintain a process to identify changes which may affect the level of safety risk associated with its aviation products or services and to identify and manage the safety risks or hazards that may arise from those changes.

Compliance and Performance Indicators **Attribution: Material obtained is attributed to CASA as SMS Evaluation Tool and Guidance © Civil Aviation Safety Authority 2021.**		P	S	O	E	Remarks
3.2.1	The organization has a process to identify whether changes have an impact on safety and to manage any identified risks in accordance with existing safety risk management processes.					
3.2.2	Human Factor (HF) issues have been considered as part of the change management process and, where appropriate, the organization has applied the appropriate HF/human-centered design standards to the equipment and physical environment design.					

Guidance	Present	Suitable	Operating	Effective
	The organization has established a change management process to identify whether changes have an impact on safety and to manage any identified risks in accordance with existing safety risk management processes.	Triggers for the change management process are defined. The process also considers business related changes and interfaces with other organizations/departments. The process is integrated with the risk management and safety assurance processes. Responsibilities and timelines are defined.	The change management process is being used and includes hazard identification and risk assessments with appropriate risk controls being put in place before a decision to make the change is taken. HF issues have been considered and been addressed as part of the change management process.	The change management process is used for all changes that may impact safety, including HF issues, and considers the accumulation of multiple changes. It is initiated in a planned, timely, and consistent manner and includes follow up action that ensures the change was implemented safely. The change is communicated to those affected. Risk control and mitigation strategies associated with changes are achieving the planned effect.

3.3 CONTINUOUS IMPROVEMENT OF THE SMS

ICAO References	Local Requirements - *(Local Regulation Reference)*.
1. Annex 19 Appendix 2 Page APP 2-4 **2**. DOC 9859 4th edition Ch. 9 /9.5.6	**(Adopted from UAE GCAA References)** The organization shall monitor and assess the effectiveness of its SMS processes to enable continuous improvement of the SMS.

Compliance and Performance Indicators **Attribution: Material obtained is attributed to CASA as SMS Evaluation Tool and Guidance © Civil Aviation Safety Authority 2021.**		P	S	O	E	Remarks
3.3.1	The organization is continuously monitoring and assessing its SMS processes to maintain or continuously improve the overall effectiveness of the SMS.					

Guidance	Present	Suitable	Operating	Effective
	There is a process in place to monitor and review the effectiveness of the SMS using the available data and information.	The SMS is periodically reviewed, and the review is supported by safety information and safety assurance activities. Senior management and different departments are involved. The decision making is data informed. External information is considered in addition to internal information.	There is evidence of the SMS being periodically reviewed to support the assessment of its effectiveness and appropriate action being taken.	The assessment of SMS effectiveness uses multiple sources of information including the safety data analysis that supports decisions for continuous improvements.

4. SAFETY PROMOTION

4.1 TRAINING AND EDUCATION

ICAO References	Local Requirements - *(Local Regulation Reference)*.
1. Annex 19 Appendix 2 Page APP 2-4 **2**. DOC 9859 4th edition Ch. 9 /9.6.4	**(Adopted from UAE GCAA References)** (a) The organization shall develop and maintain a safety training program that ensures that personnel are trained and competent to perform their duties relevant to the organization's SMS. (b) The scope of the safety training program shall be appropriate to each individual's involvement in the SMS.

Compliance and Performance Indicators **Attribution: Material obtained is attributed to CASA as SMS Evaluation Tool and Guidance © Civil Aviation Safety Authority 2021.**		P	S	O	E	Remarks
4.1.1	There is a training program for SMS in place that includes initial and recurrent training. The training covers individual safety duties (including roles, responsibilities, and accountabilities) and how the organization's SMS operates.					
4.1.2	There is a process in place to measure the effectiveness of training and to take appropriate action to improve subsequent training.					
4.1.3	Training includes human and organizational factors including just culture and non-technical skills with the intent of reducing human error.					

Guidance	Present	Suitable	Operating	Effective
	There is an SMS training program in place that includes initial and recurrent training.	The training covers individual safety duties (including roles, responsibilities, and accountabilities) and how the organization's SMS operates. Training material and methodology are adapted to the audience and include human factors. All staff requiring training are identified.	The SMS training program is delivering appropriate training to the different staff in the organization and is being delivered by competent personnel.	SMS training is evaluated for all aspects (learning objectives, content, teaching methods and styles, tests, etc.) and is linked to the competency assessment. Training is routinely reviewed to take feedback from different sources into consideration.

ICAO References	Local Requirements - *(Local Regulation Reference)*.
1. Annex 19 Appendix 2 Page APP 2-4 **2**. DOC 9859 4th edition Ch. 9 /9.6.4	**(Adopted from UAE GCAA References)** Requirements for maintaining personnel trained and competent to perform their safety and compliance tasks

Compliance and Performance Indicators **Attribution: Material obtained is attributed to CASA as SMS Evaluation Tool and Guidance © Civil Aviation Safety Authority 2021.**		P	S	O	E	Remarks
4.1.4	There is a process that evaluates the individual's competence and takes appropriate remedial action when necessary.					
4.1.5	The competence of trainers is defined and assessed and appropriate remedial action taken when necessary.					

Guidance	Present	Suitable	Operating	Effective
	A competency framework is defined for all personnel, including trainers.	There is a process in place to periodically assess the actual competency of personnel against the framework.	There is evidence of the process being used and being recorded.	The competence assessment program and process is routinely reviewed and improved. The competence assessment takes appropriate remedial action when necessary and feeds into the training program.

4.2 SAFETY COMMUNICATION

ICAO References	Local Requirements - *(Local Regulation Reference)*.
1. Annex 19 Appendix 2 Page APP 2-4 **2**. DOC 9859 4th edition Ch. 9 /9.6.5	**(Adopted from UAE GCAA References)** The organization shall develop, document and maintain a formal means for safety communication that: (a) ensures personnel are aware of the SMS to a degree commensurate with their positions in a timely manner; (b) conveys safety-critical information; (c) explains why particular safety actions are taken; and (d) explains why safety procedures are introduced or changed.

Compliance and Performance Indicators **Attribution: Material obtained is attributed to CASA as SMS Evaluation Tool and Guidance © Civil Aviation Safety Authority 2021.**		P	S	O	E	Remarks
4.2.1	There is a process to determine what safety critical information needs to be communicated and how it is communicated throughout the organization to all personnel, as relevant. This includes contracted organizations and personnel where appropriate.					

Guidance	Present	Suitable	Operating	Effective
	There is a process to communicate safety critical information.	The process determined *what*, *when*, and *how* safety information needs to be communicated. The process includes contracted organizations and personnel where appropriate. The means of communication are adapted to the audience and the significance of what is being communicated.	Safety critical information is being identified and communicated throughout the organization to all personnel, as relevant, including contracted organizations and personnel where appropriate.	The organization analyses and communicates safety critical information effectively through a variety of methods as appropriate to maximize it being understood. Safety communication is assessed to determine how it is being used and understood and to improve it where appropriate.

APPENDIX F

ICAO MID SAFETY

MID-RASP

MIDDLE EAST REGIONAL AVIATION SAFETY PLAN

Second Edition 2023-2025

MIDDLE EAST REGIONAL AVIATION SAFETY PLAN (MID-RASP)

ICAO

SECOND EDITION 2023–2025
DRAFT

Executive Summary

The Global Aviation Safety Plan (GASP) presents the global strategy for the continuous improvement of aviation safety. The purpose of the GASP is to continually reduce fatalities, and the risk of fatalities, by guiding the development of a harmonized aviation safety strategy

The GASP promotes the effective implementation of a State safety Programme (SSP) including National Aviation Safety Plan (NASP), a State's safety oversight system, and a risk-based approach to managing safety as well as a coordinated approach to collaboration between States, international organizations, and industry.

The vision of the GASP is to achieve and maintain the aspirational safety goal of zero fatalities in commercial operations by 2030 and beyond, which is consistent with the United Nations' *2030 Agenda for Sustainable Development*. The plan's mission is to continually enhance international aviation safety performance and resilience by providing a collaborative framework for States, regions and industry.

The Middle East Regional Aviation Safety Plan (MID-RASP) 2023-2025 Edition considers and supports the objectives and priorities of GASP 2023-2025 Edition. MID-RASP also emphasizes the importance of identifying and mitigating risks at MID region level. In addition, MID-RASP is to create a common focus on regional aviation safety issues as a continuation of the MID region work to improve aviation safety and to comply with ICAO standards and supports MID States and industry in implementing the GASP 2023-2025 Edition.

Furthermore, the States national aviation safety plan (NASPs) should be developed in alignment with the GASP and the MID-RASP. However, priority should be given to national safety concerns. Moreover, the NASP should be also aligned and coordinated with the MID-RASP (as appropriate) and with other efforts aimed at enhancing aviation safety.

MID-RASP provides a three-year plan for States in MID Region to strengthen its safety oversight capability and implement an effective safety management. This relates to the continuous reduction of regional operational risks and improvement in States' safety oversight and safety management capabilities. It adopts a risk-based approach to managing safety at regional-level through a coordinated approach and collaboration between States in the region, regional organizations and industry.

The RASG-MD is the governing body responsible for the development, implementation and monitoring of the MID-RASP, in collaboration with the ICAO MID Office, international and regional organizations and with the aviation industry. The MID-RASP is to be reviewed by the Safety Enhancement Implementation Group (SEIG) every year mainly to include new identified Safety Enhancement initiatives' (SEIs), review the existing SEIs, as well as their respective actions.

The MID Region's strategic approach to managing safety at the regional level is to address the region's operational risks and other safety issues in a timely manner. Therefore, the MID-RASP strategic approach would focus on organizational challenges/issues, regional operational safety risks, and emerging risks as indicated below.

a. Organizational challenges/issues including the States 'safety oversight, safety management, aircraft accident and incident investigation, human factors and competence of personnel, and Cybersecurity.
b. Regional operational safety risks, the focus would be on Regional high risks categories (R-HRC) identified in the GASP 2023-2025 Edition mainly the LOCI-I, CFIT, RE, RI, and MAC; and
c. Emerging risks, the focus would be on COVID-19 pandemic outbreak, Civil drones (Unmanned Aircraft Systems), GNSS outages, impact of security on safety, and 5G interference with Radar Altimeter frequency band.

MID Region safety indicators and targets were aligned with the 2023-2025 GASP goals and regional specific objectives and priorities. The RASG-MID would use the indicators listed in the MID Region Safety performance Monitoring to measure safety performance and monitor each regional safety target. Moreover, the RASG-MID would continuously monitor the implementation of the SEIs listed in the MID-RASP and measure safety performance of the regional civil aviation system, to ensure the intended results are achieved, using the MID Region Safety performance Monitoring.

The MID Region Safety performance Monitoring includes six (6) Goals in line with GASP 2023-2025 Edition. For each Goal established in the MID Region Safety performance monitoring, identified SEI(s) be mapped to it including their respective actions. Thus, to address regional operational risks, organizational issues, and emerging risks; 24 SEIs and 57 safety actions have been identified, developed and proposed.

The MID-RASP provides guidance on how States should identify which top risks and key safety issues mentioned in the GASP and MID-RASP apply to their national context and then to be included in their NASPs. States should also add other safety issues which are unique to their operational context. Several MID-RASP SEIs which are intended for implementation by States at the national level are recommended for inclusion in their NASPs.

TABLE OF CONTENTS

Appendices:

Appendix A: SEIG Term of References

Appendix B: Identified safety issues as indicated in the 11th ASR

Appendix C: MID Region Safety Performance Monitoring (SPM)

Appendix D: Safety Actions- List of consolidated SEIs for follow up

Appendix E: SEIs identified in MID-RASP and recommended to States for inclusion in their NASPs

Appendix F: Definitions

Appendix G: Abbreviations and acronyms

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PART-I. PLANNING

1. INTRODUCTION

1.1 Objectives and Principles

The MID Regional Aviation Safety Plan (MID-RASP) presents the **strategic direction** for the **management of aviation safety** at the regional level. It constitutes the regional safety plan for MID Region, setting out the strategic priorities, main risks affecting the region aviation system and the necessary actions to mitigate those risks to further improve aviation safety.

The purpose of this MID-RASP is to continually reduce fatalities, and the risk of accidents, through the development and implementation of regional SEIs. A safe aviation system contributes to the economic development of MID Region, the States which comprise it, and their industries. In addition, MID-RASP is to create a common focus on Regional aviation safety issues as a continuation of the MID Region work to improve aviation safety and to comply with ICAO standards. This approach complements the existing system of developing safety regulations, complying with them and investigating accidents and serious incidents when they occur.

The MID-RASP promotes the effective implementation of a State safety Programme (SSP) and Safety Management System (SMS) including National Aviation Safety plan (NASP), State's safety oversight system, and a risk-based approach to managing safety as well as a coordinated approach to collaboration between States, international organization, and industry. All stakeholders are encouraged to support and implement the MID-RASP as the regional strategy for the continuous improvement of aviation safety.

The MID RASP allows the region to define the strategy for improving safety within a specified timeframe, through defined Safety Enhancement Initiatives (SEIs).

The MID-RASP establishes the first layer of priorities which is further complemented at national level by national safety plans and Programmes. It builds a network for action, thus coordination and close collaboration are key to keeping it up to date and effective.

The MID-RASP Edition 2023-2025 covers the three-year period between 2023 and 2025 and will be updated on a yearly basis, as required, to cover subsequent three years' periods. It is a rolling 3-year plan.

The planning activity would be followed up by a reporting activity, in which progress on the actions is evaluated and also documented. This feedback loop ensures that the process to manage risks continuously improves and may contribute to the identification of new safety issues.

MID Region is committed to enhancing aviation safety, to the resourcing of supporting activities and to increasing collaboration at the regional level.

1.2 Relationship between MID-RASP and GASP and other Plans

Aviation's contribution towards the United Nations 2030 Agenda for Sustainable Development and in order to maximize the benefits of aviation, the priorities of the aviation sector should be integrated and reflected in State's economic and social development planning with an appropriately balanced development of transport modes, including multi-modal and urban planning initiatives. In addition, recognizing that air transport is a catalyst for sustainable development and that it represents an essential lifeline for Least Developed Countries (LDCs), and especially for Landlocked Developing Countries (LLDCs).

ICAO Business Plan takes into consideration all of the work mandated to be undertaken by ICAO, regardless of source of funding. The Business Plan sets out the Strategic Objectives and priorities to guide the activities of the Organization to support Members States in their attainment of a safe, secure, efficient, economically viable and environmentally responsible air transport network.

ICAO's global plans are essential in supporting safe, secure, efficient, economically viable and environmentally responsible air transportation. They provide a means to advance ICAO's Strategic Objectives. The ICAO global plans include: the GASP, the GANP and the Global Aviation Security Plan (GASeP).

The GASP presents the global strategy for the continuous improvement of aviation safety. The purpose of the GASP is to continually reduce fatalities, and the risk of fatalities, by guiding the development of a harmonized aviation safety

The purpose of the Global Air Navigation Plan (GANP) is to drive the evolution of the global air navigation system to meet the ever-growing expectations of all sectors in the aviation community by equitably accommodating all airspace user operations in a safe, secure and cost-effective manner while reducing the aviation environmental impact. To this end, the GANP provides a series of operational improvements to increase capacity, efficiency, predictability and flexibility, while ensuring interoperability of systems and harmonization of procedures. The implementation of the GANP is enabled by promoting the effective implementation of safety oversight and a safety management approach to oversight, including SRM to permit innovation in a managed way.

The GASP complements the GANP by providing States and industry with the tools to implement a safety management approach through their SSP and SMS. The GANP, through the evolution of the system described in the conceptual roadmap and the operational improvements detailed in the technical frameworks, supports the goals within the GASP and the GASeP by enhancing safety and security of the air navigation system as reflected in the performance ambitions.

The GASP goals and targets support the GASeP by providing best practices and models that can be as effective in managing security as they are in safety management. These include: effective oversight, organizational culture, risk management and assurance processes. The GASeP in turn supports the GASP's vision of zero fatalities.

MID-RASP considers and supports the objectives and priorities of GASP. The purpose of GASP is to continually reduce fatalities, and the risk of accidents, by guiding the development of a harmonized aviation safety strategy and the development and implementation of regional and national aviation safety plans. A safe aviation system contributes to the economic development of States and their industries. The GASP promotes the effective implementation of SSP and SMS including NASP, a State's safety oversight system, and a risk-based approach to managing safety as well as a coordinated approach to collaboration between States, international organizations, and industry. One of the GASP goals is for States to improve their effective safety oversight capabilities and to progress in the implementation of SSPs including NASPs. Thus, GASP calls for States to put in place robust and sustainable safety oversight systems that should progressively evolve into more sophisticated means of managing safety.

Assembly Resolution A40-1 also calls for each State to develop and implement a national aviation safety plan (NASP), in line with the GASP goals, targets and the global high-risk categories of occurrences (G-HRCs). The NASP should also be developed having close regard for the RASP, while acknowledging that each State may have its own, specific safety issues and priorities, including addressing significant safety concerns (SSCs).

In addition, to addressing systemic safety, GASP addresses Global high-risk categories (G-HRC) of occurrences, which are deemed global safety priorities. These categories were determined based on actual fatalities from past accidents, high fatality risk per accident or the number of accidents and incidents. The following G-HRCs have been identified for the 2023-2025 edition of the GASP: controlled flight into terrain (CFIT); Loss of control in flight (LOC-I); Mid-air collision (MAC); runway excursion (RE); and runway incursion (RI). The GASP G-HRCs are addressed in MID-RASP.

The MID-RASP considers the objectives and priorities of the GASP to enhance the level of safety in aviation and to better prepare the Member States for the ICAO Universal Safety Oversight Audit Programme (USOAP) audits and State Safety Programme Implementation Assessment (SSPIA) of their SSPs.

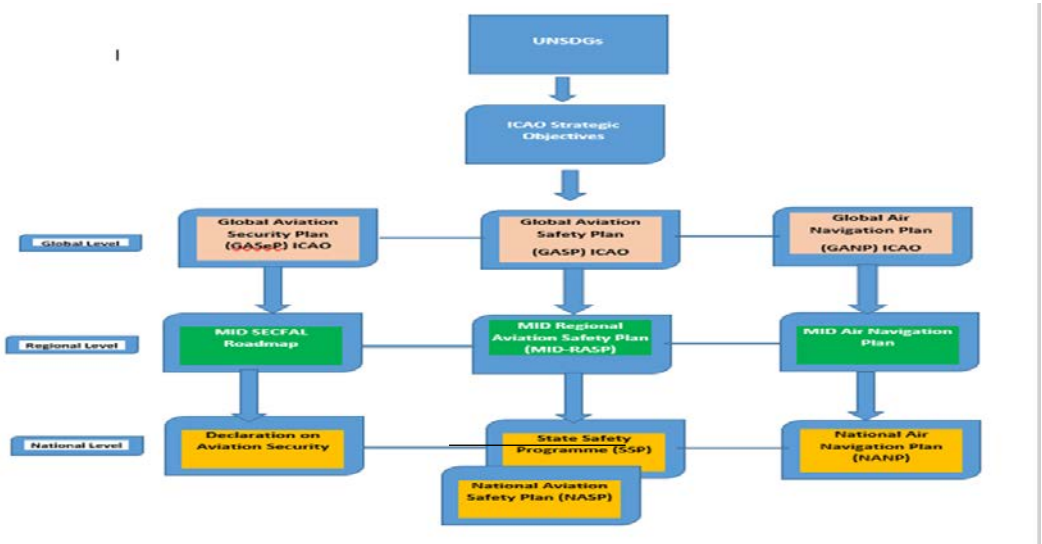
This MID-RASP edition 2023-2025 provides references to corresponding GASP 2023-2025 Safety Enhancement Initiatives (SEIs); covering organizational challenges, Regional operational risks, and emerging risks.

The 2023-2025 Edition of the GASP would set forth ICAO's Safety Strategy in support of the prioritization and continuous improvement of aviation. The plan guides the implementation of regional and national aviation safety plans.

The 2023-2025 Edition of the GASP includes a new set of goals, targets and indicators, in line with the United Nations' 2030 Agenda for Sustainable Development.

In respect of MID-Safety performance monitoring, the GASP provides the global strategic direction while the MID Safety performance monitoring provides regional specific goals and support the region's strategic approach to managing safety at the regional level. Consequently, MID region safety indicators and targets were aligned with the 2023-2025 GASP goals and targets as relevant in the MID Region. Furthermore, the RASG-MID would continuously monitor the implementation of the identified SEIs in the MID-RASP and measure safety performance of the regional civil aviation system, to ensure the intended targets are achieved, using the MID Region safety performance monitoring to this plan. Moreover, MID safety performance monitoring Goals support the region's strategic approach to managing safety at the regional level. Therefore, for each Goal established in the MID Region Safety performance monitoring identified SEI(s) is mapped to it including their respective actions.

The MID safety performance monitoring is included as an appendix and became an integral part of MID-RASP.



Graph 1: Relationship between MID-RASP and other Plans

2. HOW MID-RASP IS STRUCTURED

This MID-RASP presents the regional strategy for enhancing aviation safety for a period of three years. It is comprised of two parts and 7 chapters. The 2023-2025 MID- RASP Edition comprises two distinct parts:

- **Part I. Planning** provides an introduction, describes how the MID-RASP is developed and monitored and includes the safety priorities. It consists of **Chapters 1 to 5**.

- **Part II. Implementation** contains the safety performance monitoring and the detailed list of MID-RASP safety actions. It consists of **Chapters 6 and 7**.

- Both parts are supported by a number of appendices providing further details or assisting the reader.

Part-I. Planning

Part I provides an introductory explaining the main objective of this MID-RASP. Chapter 2, 3, and 4 explain how MID-RASP is structured, developed, monitored and presents the structure of the document. Chapter 5 presents safety priorities and the key actions taken as indicated below:

- 5.1 Organizational Challenges/issues
- 5.2 Regional operational safety risks
- 5.3 Emerging risks

Part-II. Implementation

Part II contains the safety performance monitoring and the detailed list of MID-RASP safety actions. It consists of Chapters 6 and 7.

The **chapter 6** presents the MID Region safety indicators and targets.

In respect of **chapter 7**, it facilitates the identification of SEIs and their respective actions relevant for each Goal identified in the MID Region Safety performance monitoring as follows:

- Goal 1: Achieve a continuous reduction of operational safety risks;
- Goal 2: Strengthen States' safety oversight capabilities;
- Goal 3: Implement effective State safety Programmes (SSPs);
- Goal 4: Increase collaboration at the regional level ;
- Goal 5: Expand the use of industry Programmes and safety information sharing networks ; and
- Goal 6: Ensure the appropriate infrastructure is available to support safe operations.

The MID Region Safety performance monitoring includes six (6) Goals in line with GASP 2023-2025 Edition. For each Goal established in the MID Region Safety performance monitoring, identified SEI(s) is mapped to it including their respective actions and the following information is provided:

Goal: Goal supports the region's strategic approach to managing safety at the regional level.

- **Name:** Goal #Number - SEI# Number: Description of the SEI;
- **Target(s)/Metrics.** Targets which serve to fulfil their respective Regional Goal;
- **Rationale** behind the safety issue (why it has been identified as an issue);
- **What it is to be achieved** (objective);
- **How we intend to monitor improvement** in the future;
- **How we intend to achieve** the objective; here, the various actions contributing to mitigate the identified risk in that area are described;
- **Actions**: The tasks required for the implementation of the SEI. The actions support the SEI and Targets of the Regional Goal;
- **References:**
  - Indicates key existing global documents from which the SEI is adopted, if applicable.

Stakeholders: The entities/ stakeholders in the MID region, to which the Actions are addressed
Example Action 1: Description of the Action to be taken
Subtask(s) if needed to be added **Owner(s)**: **Appointed Group/State(s)/Organization(s) to further develop details for implementation of the respective Action** **Priority:** Low, Medium, High **Completion Date**: The date in which the respective Action is expected to be implemented **Status**: new, ongoing, on hold, completed. (Provide also updated progress if any)
Example Action 2: Description of the Action to be taken
Subtask(s) if needed to be added **Owner(s):** Appointed Group/State(s)/Organization(s) to further develop details for implementation of the respective Action **Priority**: Low, Medium, High **Completion Date**: The year(s) in which the respective Action is expected to be implemented **Status:** new, ongoing, on hold, completed. (**Provide also updated progress if any**)

EXPECTED OUTPUT	
Deliverable(s)	**TIMELINE**
Description of the Result to be achieved	The year in which the respective Target is expected to be achieved

3. HOW MID-RASP IS DEVELOPED AND MONITORED

The RASG-MD is the governing body responsible for the development, implementation and monitoring of the MID-RASP, in collaboration with the ICAO MID Office, international and Regional organizations and with the aviation industry. The MID-RASP was developed in consultation with States, regional organizations, and other stakeholders in the region, and in alignment with the 2023-2025 of the GASP. If required, RASG-MID would seek the support of MIDANPIRG and RASFG-MID, other sub-groups, States, regional organizations, and industry to ensure the timely implementation of SEIs to address safety deficiencies and mitigate risks. Through close monitoring of the SEIs, SEIG would make adjustments to the MID-RASP and its initiatives, if needed, and update the MID-RASP document accordingly.

Furthermore, the MID-RASP is to be reviewed by SEIG every year mainly to include new identified SEIs, review the existing SEIs, and their respective actions. In addition, the MID-RASP is to be updated/endorsed by RASG-MID at least every three years and as deemed necessary.

The SEIG is established to assist RASG-MID to develop and monitor the implementation of SEIs as at **Appendix A** related to identified regional operational risks, organizational challenges, and emerged risks. In addition, the SEIG takes the lead and ensures that SEIs are implemented in a timely, effective and efficient manner in coordination with RASG-MID, MIDANPIRG, and RASFG-MID groups and sub-groups (ASRG, ASPIG, AIIG, ATM-SG,..etc), States, regional organizations, and industry.

As a first step towards establishing this system and to facilitate MID-RASP implementation, it is necessary to enhance the communication and flow of safety data and information, as well as coordination processes, among RASG-MID and its subsidies, States, and regional organizations. There is also the need to continue to enhance collaboration with MIDANPIRG through coordinated processes to sustain the collection and sharing of regional air traffic management (ATM) data and the sharing and resolution of safety issues. This, in turn, would support the implementation of Aviation System Block Upgrade (ASBUs) and ensure that their implementation accounts for and properly manages existing and emerging risks, e.g. approaches with vertical guidance (APV) to mitigate risks associated with CFIT and runway excursions.

The MID-RASP was developed with the aim to address the MID region's operational and other safety issues in a timely manner, and as applicable. It is expected that this approach would facilitate MID States' support and participation in the implementation of these SEIs and their respective actions at both the regional and national levels. The three-year period of the MID-RASP, i.e. 2023 to 2025, was selected to coincide with the GASP review period of the same duration, to ensure continued alignment with the latest global plans.

States should ensure that a NASP is maintained and regularly reviewed. The MID-RASP provides the identified safety priorities in the region and States should identify which top risks and key issues mentioned in the GASP and MID-RASP which apply to their national context and identify suitable mitigations actions within their NASP. States should also add/consider other safety issues which are unique to their operational context. Furthermore, States to establish a NASP taking into account the GASP and MID-RASP; and based on their operational safety needs.

The key contents of the MID-RASP were developed using an eight-step process recommended by the GASP to develop RASPs and NASPs, similar to the Plan-Do-Check-Act (PDCA) continuous improvement cycle, as follows:

Step 1: Conduct self-evaluation;
Step 2: Identify hazards and safety deficiencies;
Step 3: Develop list of prioritized regional safety issues;
Step 4 – Define goals, indicators, and targets
Step 5: Perform gap analysis to identify SEIs;
Step 6: Develop a list of prioritized SEIs;
Step 7: Develop a Regional aviation safety plan; and
Step 8: Monitor implementation

The MID-RASP has been developed in congruence with the GASP, and supports the GASP aspirational goal of zero fatalities by 2030 and its objectives, goals, targets and indicators.

a. The MID-RASP structure adheres closely to GASP;
b. A comprehensive gap analysis was undertaken to identify the existing gaps between the existing work by RASG-MID, and subsequently also compared with ICAO Manual: Doc 10131, 'Manual on the Development of Regional and National Aviation Safety Plans;

c. The MID safety performance monitoring is aligned with GASP 2023-2025 Edition, retained and included as an Appendix in the MID-RASP; and
d. MID-RASP SEIs were selected taking into consideration relevant SEIs for the region in line with GASP 2023-2025 Edition as well as relevant work plan items of DCGA, RASG-MID, MIDANPIRG, and RASFG-MID meetings. Moreover, GASP SEIs for States and Industry (domestic) were not considered as these are more suitable to be included in the NASPs of the MID States.

The MID-RASP supersedes the previous work of the RASG-MID subsidy bodies (RAST and SST) initiatives to elevate the commitment of the MID Region to improve its safety oversight capability, which relates to the continuous reduction of regional operational risks and improvement in safety oversight capabilities and safety management of States. In particular, the MID-RASP serves to raise awareness of safety risks and consequences, to States, industry and relevant stakeholders to commit and provide resources including financial, staffing and technical expertise, to making improvements in safety management, oversight capability and operational safety performance. It also provides a basis to facilitate information sharing between relevant stakeholders who can take actions or provide support to address issues.

At the regional level, the MID-RASP commits RASG-MID to continue the following efforts as indicated below:

a. Focus on the update and the development of the new regional SEIs to address the Regional High Risk Categories (R-HRCs) of LOC-I, CFIT, MAC, RI and RE, and other priorities;
b. Support States to strengthen safety oversight capabilities
c. Assist States in the development and implementation of SSP and SMS including the development of NASPs;
d. Promote regional government and industry collaboration for sharing safety information and best practices in safety management;
e. Promote the effective implementation of AGA, with a focus on implementation of Aerodrome Certification including the SMS, runway safety Programmes including the establishment of Runway Safety Teams (RSTs) and Global reporting Format methodology (GRF);
f. Support States in the development of Unmanned aircraft system (UAS) national regulations;
g. Support States on COVID-19 pandemic activities to enable a safe and secure return to operations, the GNSS interference, the impact of security on safety, manage Cybersecurity risks; and 5G interference with Radar Altimeter frequency band.
h. Support States to establish and activate the MENA RSOO;
i. Provide continuous support for the MENA ARCM activities.
j. Continue implementation support to States and industry, including the development of improved guidance materials as well as the organization of workshops and training to provide assistance and guidance to MID States; and
k. Put in place a structure for the collection, analysis and sharing of safety and operational data in the region to support a comprehensive approach to risk management, and facilitate initiatives to develop Regional data collection, and analysis.

States and industry are committed to the following efforts:

a. Implement, as appropriate, the GASP SEIs and MID-RASP SEIs and their respective actions in strategic and timely manner;
b. (For any States with SSCs), accord priority to the resolution of any SSCs identified by the ICAO USOAP CMA Programme. These should draw on the necessary resources available, including technical assistance from other States and Regional Programmes to resolve the SSCs promptly;

c. Accord priority to the implementation of SSP and SMS;
d. Use data-driven methodologies to identify R-HRCs and their safety issues, and implement collaborative solutions to reduce accident rates and fatalities in the Region, and likewise accord priority to the implementation of respective SEIs; and
e. Consider various options to leverage ICAO-recognized industry assessment Programmes such as the IATA Operational Safety Audit (IOSA), IATA Safety Audit for Ground Operations (ISAGO), IATA Standard Safety Assessment Programme (ISSA), and ACI APEX Programme. These options range from recognition of such Programmes to encouraging registration by all applicable operators as a means to strengthen their safety management and compliance.

4. OPERATIONAL CONTEXT

4.1 Worldwide Perspective

After the year 2020 when the global economy experienced the worst crisis since the Great Depression as a consequence of the COVID-19 pandemic, the activity in 2021 rapidly recovered and the prospects for the following years are that this trend will continue. However, it is too soon to draw firm conclusions, considering the uncertainties on the evolution of certain threats (not only the pandemic, but also climate change, increasing public debts and geopolitical changes).

According to the last general IMF forecast available at *(https://www.imf.org/en/Publications/WEO/Issues/2021/10/12/world-economic-outlook-october-2021)*, GDP fell by 3.3 % in 2020 and is expected to rebound by 5.9 % in 2021, to continue with a growth rate of 4.9 % in 2022. Behind these global figures quite diverse situations are found in national economies due to differences in the pace of vaccine roll-out and the capability of States to offer financial support. The pandemic also affected the job market, the employment conditions and other socio-economic factors. From a worldwide perspective, according to the International Labour Office, the unemployment rate grew by 1.1 point to 6.5 % in 2020, compared to 5.4 % in 2019, and will only slowly decrease to an expected 6.3 % in 2021 and 5.7 % in 2022. *(https://www.ilo.org/wcmsp5/groups/public/---dgreports/---dcomm/---publ/documents/publication/wcms_795453.pdf). Table 1.2 Employment-to-population ratio, unemployment rate.*

From a worldwide aviation perspective, large aeroplane commercial passenger flights, constituting the bulk of the aviation activity, showed an unprecedented drop in 2020 and started to recover in 2021. The closure of borders fundamentally contributed to this drop in traffic, hitting airline international traffic far more than domestic traffic. If the current positive trend of pandemic recovery continues, the domestic traffic in terms of number of airlines' commercial passengers would recover in 2022 in comparison with the 2019 level. International traffic would only recover in 2024.

4.2 Middle East Perspective

The Middle East Region has been, for years, at the forefront of aviation growth and reshaping the global long haul markets by elevating its hub position for connecting Europe and Asia-Pacific, in line with the west to east shift of the geographical centre of gravity of air transport operations. Growth of the Region started to undergo a significant transition and slow down recently. Air transport supports 2.4 million jobs and USD 130 billion in GDP in the Middle East.

With the further movement of the air transport centre of gravity from West to East, the geographic position of the Gulf hubs will continue to offer a strategic advantage to several airlines in the Region. According to ICAO long-term traffic forecasts, total passenger traffic of the Middle East Region is expected to grow by around 4.6 per cent annually up to 2045, the second fastest growth among all Regions after Asia and Pacific. The Middle East is expected to be the fastest growing Region in terms of freight traffic growth, and is projected to grow at 5.4 per cent annually up to 2045. This increase will, in turn, drive growth in the economic output and jobs that are supported by air transport in the next

decade. By 2036, it is forecasted that the impact of air transport and the tourism it facilitates in the Middle East will have grown to support 4.3 million jobs (78 per cent more than in 2016) and a USD 345 billion contribution to GDP (an increase of 166 per cent).

The Middle East has to contend with situations unique to the Region such as fluctuating oil revenues, Regional conflict and overcrowded air space. In addition, airlines in this Region are now facing challenges to their business models.

The growth of air transport requires a high-performing aviation system including airlines, airports and ATM. The overall efficiency of the ATM system commensurate with the level of predicted traffic growth should be increased through improved airspace design and organization. Furthermore, this Region is in need of political commitment to market liberalization. Although the Middle East is home to some of the world's largest hub airports, the relations between States are still mostly bound by bilateral air services agreements that limit market access to each other. *(Source: Aviation Benefits Report-2019).*

The economic and social situation in the Middle East is similar to the world outlook provided above.
The COVID-19 pandemic has battered world-wide aviation in a way that could never have been imagined and we are still trying to assess the full extent of the impact that it will have on civil aviation in the longer term. While the pandemic is not yet over, there are signs at last that vaccination offers a viable way to reduce levels of infection and a basis to realistically plan for a full reopening. Throughout the pandemic, the ICAO MID Office has continued to work collaboratively with all stakeholders to ensure that the industry is equipped to resume the flight operations.
In addition, the MID-RPTF mechanisms continued to serve as a platform for coordination and cooperation amongst all stakeholders to support States with the implementation of the CART and HLCC recommendations as well as the recovery of aviation industry in the MID Region during the COVID-19 pandemic outbreak.

During 2021 the reduction in airline passenger flights due to COVID-19 continued, subsequently resulting also in lack of capacity to transport cargo in that aircraft The same can be stated for the complexity of operations, ranging from quarantine measures imposed on flight crews, disruption in training and scheduling, and the need to transport cargo in the cabin.

Airlines continued to have a large portion of their aircraft grounded, leaving flight and cabin crew members with uncertainty about the return to normal operations.

However, the recovery during the summer of 2021 was faster than expected. This was a positive development but led to difficulties for operators to cope with the increased demand, adding complexity in the return to service of aircraft and flight crews.

Over the last five years, the global scheduled commercial international operations accounted for approximately 24.96 million departures in 2021, compared to 36.3 million departures in 2017. The MID Region shows a decrease in traffic volumes during 2021. Total scheduled commercial departures in 2021 accounted for approximately 806,274 estimated departures compared to 1.37 million departures in 2017. In terms of an aircraft accident, the MID Region had no accident during the year 2021. The 5-year average accident rate for 2017-2021 is 2.21, which is slightly below the global average rate (2.41) for the same period The MID Region accident rate in 2020 is higher than the global accident rate, which is 2.14 accidents per million departures.

The MID Region had no fatal accident in 2021. However, the 5-year average fatal accident rate for 2017-2021 is 0.42, which is almost similar to the global average rate (0.41) for the same period. The MID Region had no fatal accidents in 2017, 2019, and 2021. However, two fatal accidents occurred in 2018 and 2020. The 2018 accident caused 66 fatalities and the year 2020 caused 176 fatalities.

In terms of Safety Management, the average EI for SSP foundation PQs for States in the MID Region is 76, 1%. Implementation of SSP is one of the main challenges faced by the State in the MID Region. The RASG-MID addresses the improvement of SSP implementation in the MID Region as one of the top SEIs. In connection with this, the RASG-MID/9 endorsed the Safety Management Implementation Team (SMIT) handbook to support MID States in the implementation of the SSP in an effective and efficient way.

Common challenges in MID Region include:

a. The political/security situation in some States, the cross-national variation in Aviation development as well as the relatively small accreditation area, impede the provision of Technical assistance, implementation of Regional projects and the achievement of the Regional safety, air navigation and Security targets;
b. The drastic reduction in traffic volumes due to the COVID-19 crisis and the new risks induced by its impacts
c. The lack of financial and human resources in some States, combined with the complexity of administrative arrangements for the approval of duty travel, political sensitivities, etc., affected the level of attendance to the activities organized by the ICAO MID Office as well as States' support to the MIDANPIRG, RASG-MID and the MID-RASFG Work Programmes and their subsidiary bodies;
d. Low level of reporting by States (inputs to the MID Air Navigation Report and MID Annual Safety Report, incidents, national plans, success stories, replies to State Letters, etc; and
e. Resources constraints (financial and technical personnel) in the Regional Office, combined with a high rotation rate vs. necessary time for new staff/comers to cope with the way of doing business in ICAO considering the MID Region specific challenges.

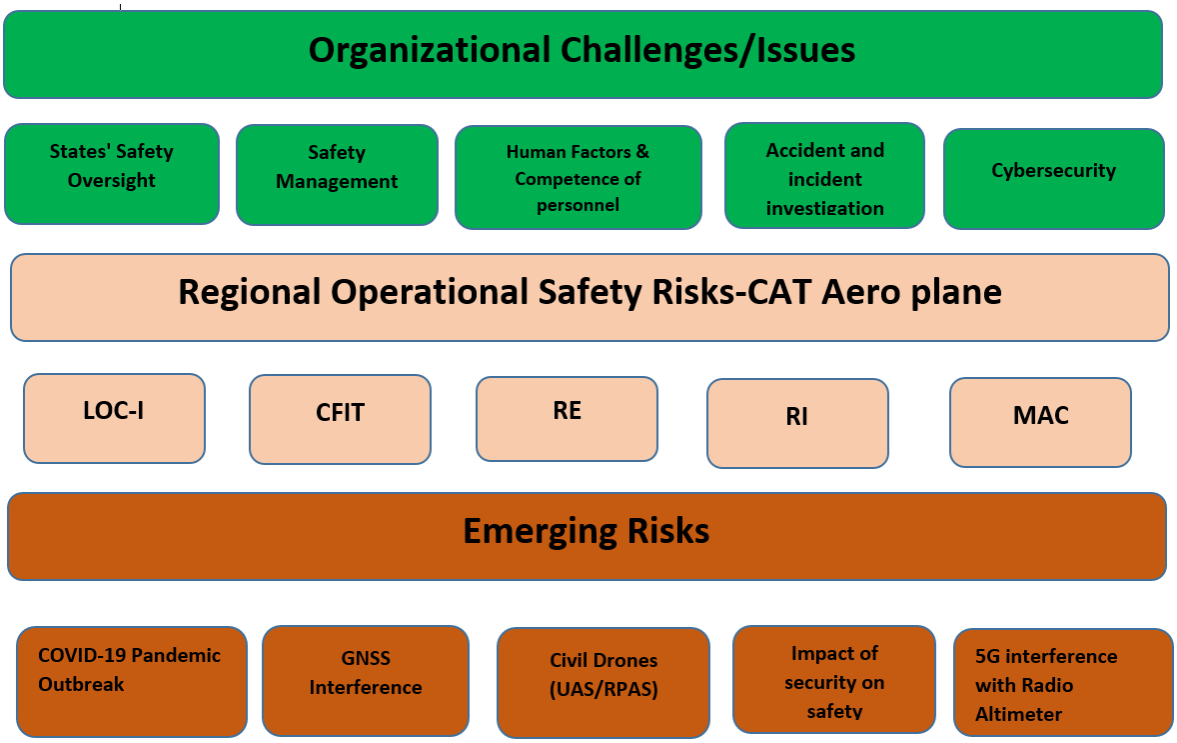
5. STRATEGIC PRIORITIES

The MID-RASP presents the safety priorities that were developed based on the ICAO GASP's including organizational challenges, operational safety risks, and emerging risks as well as region-specific issues identified by a safety risk assessment and published in MID Region Annual Safety Reports and RASG-MID activities. Additionally, the MID region's strategic approach to managing safety at the regional level is to address the region's operational issues and other safety issues in a timely manner. Therefore, the MID-RASP strategic approach would focus on organizational challenges/issues, regional operational safety risks, and emerging risks as indicated in the graph 1 below.

a. Organizational challenges/issues including the States 'safety oversight, safety management, aircraft accident and incident investigation, Human factors and competence of personnel, and Cybersecurity. In terms of human factors and competence of personnel, as new technologies emerge on the market and the complexity of the system continues increasing, it is of key importance to have the right competencies and adapt training methods to cope with new challenges. It is equally important for aviation personnel to take advantage of the safety opportunities presented by new technologies;

b. In respect of regional operational safety risks, the focus would be on R-HRC identified in the GASP 2023-2025 Edition mainly the LOC-I, CFIT, RE, RI, and MAC; and

c. Regarding the emerging risks, the focus would be on the COVID-19 crisis and the new risks induced by its impacts, Civil drones (Unmanned Aircraft Systems), Management of security risks with safety impact, and GNSS interference, and 5G interference with Radar altimeter band frequency.



Graph 2: Safety Priorities

Therefore, the MID-RASP adopts three focus areas approach:

First focus area involves enhancing existing Regional mechanisms to strengthen effective safety oversight capabilities and improve the implementation of effective safety management, in particular to:

a. Draft the MID-RASP 2023-20225 Edition and consider inputs from MID Annual Safety Report (MID ASR), MID Region safety management Roadmap, Runway Safety Go-Team; RASG-MID, MIDANPIRG, and RASFG-MID.
b. enhance coordination and communication with regional organizations including ACAO, ACI, CANSO, IATA, and other regional mechanisms, MENA ARCM, especially MENA RSOO once activated .;
c. improve the scheduling and streamline the number of regional safety-related events including workshops, trainings, seminars; and
d. improve communication and sharing of safety information between States, international organizations, and industry.

In addition to the varying levels of safety oversight capabilities in the MID Region, other regional safety issues and activities have been identified and selected for inclusion in the MID-RASP. These were derived from the RASG-MID reports, analysis of USOAP data, accident and incident investigation reports, safety oversight activities over recent years from MID States, as indicated below:

a. Improve Regional Cooperation for the provision of Accident & Incident Investigation;
b. Improve implementation of ELP requirements;
c. Sharing of Safety Recommendations related to Accidents and Serious Incidents;
d. Enhance State Oversight on Dangerous Goods;
e. Need to manage the cybersecurity risks; and
f. 5G interference with Radar altimeter frequency band.

Second focus area involves addressing effectively regional operational safety risks including specific operational risks stemming from the crisis as the vision of the GASP is to achieve and maintain the goal of zero fatalities in commercial operations by 2030 and beyond.

Third focus area involves addressing the emerging safety risks that might impact safety in the future including recovering from the COVID-19 crisis without adversely affecting the high level of safety performance GNSS outages/vulnerability, civil drones to ensure safe operation of unmanned aircraft system (UAS), impact of security on safety, and 5G interference with Radar Altimeter frequency band. Additionally, for emerging risks, SEIs/safety actions would be developed and covered under the focus areas (organizational challenges and Regional operational safety risks).

5.1 Organizational Challenges/Issues

Organizational challenges are systemic issues which take into consideration the impact of organizational culture, and policies and procedures on the effectiveness of safety risk controls. Organizations include entities in a State, such as the civil aviation authorities (CAAs) and service providers, such as operators of aeroplanes, ATS providers and operators of aerodromes. Organizations should identify hazards in systemic issues and mitigate the associated risks to manage safety. A State's responsibilities for the management of safety comprise both safety oversight and safety management, collectively implemented through an SSP.

It is crucial that States' safety oversight capabilities and safety management, and aviation infrastructure should keep pace with these regional safety issues.

Therefore, for the triennium of 2023-2025, the MID Region should continue to focus its efforts in addressing the following top Regional organizational issues:

a. Lower USOAP EI scores, especially States with EI below 60% as well as AIG, ANS, AGA, and OPS areas;
b. Slow pace of SSP development & implementation including the NASP development, as well as understanding of newer safety management and performance based concepts;
c. Slow pace of SMS acceptance and surveillance;
d. Slow pace of developing Risk Management framework to support decision-making and deploy the resources needed to mitigate risks effectively.
e. Improve Regional Cooperation for the Provision of Accident & Incident Investigation
f. Enhance State Oversight on Dangerous Goods
g. Support States related to Human factors and Competence of Personnel
h. Support States to manage the cybersecurity risks
i. Management of security risks with safety impact
j. Slow pace of implementation of RASG-MID conclusion/ MID-RASP SEIs/safety actions and tools to mitigate identified safety risks and safety deficiencies;
k. Insufficient resources and expertise to manage and collect safety data and safety information on a State level, and no formal mechanisms in place that allow for the sharing and benchmarking of information at the Regional level; and
l. Increasing risks associated with airspace structure including ATS networks and associated airspaces to accommodate the traffic flow in safe and efficient manner.

5.1.1 Strengthening of States' Safety Oversight Capabilities

Safety oversight is defined as a function by means of which States ensure effective implementation of the safety-related SARPs and associated procedures contained in the Annexes to the Convention on International Civil Aviation and related ICAO documents. States have overall safety oversight responsibilities, which emphasize a State's commitment to safety in respect of the State's aviation activity. An individual State's responsibility for safety oversight is the foundation upon which a safe global air transport system is built. States that experience difficulties in carrying out safety oversight

functions can impact the state of International Civil Aviation.

USOAP-CMA audits had identified that States inability to effectively oversee aviation operations which remains a global concern. In respect of MID Region, the Regional average overall Effective Implementation (EI) (13 out of 15 States have been audited) is 74, 67 %, which is above the world average 68.68 % (as of 29 May 2022). Three (3) States are currently below EI 60%.

All eight areas have an EI above 60%. However, the areas of AIG, AGA and ANS still need more improvement. Regarding the Critical Elements (CEs), CE4 (Qualified technical personnel) improved and is above 60% (62.39%) EI, whereas CE8 (resolution of safety issues) is the only one below EI 60% (58. 89%) EI.

Moreover, the effective implementation in certification, surveillance, and resolution of safety concerns need to be improved.

Key Actions completed/planned
a. Conducted technical assistance and NCLB mission activities to States
b. Capacity building activities
c. Developed and implemented a specific NCLB plan of actions for prioritized States according to established criteria
d. Established MENA RSOO to assist States and start operations

5.1.2 Improve Regional Cooperation for the Provision of Accident & Incident Investigation

In respect of MID Region, the Regional average overall Effective Implementation (EI) (13 out of 15 States have been audited) is 74.67 %, which is above the world average 68.68 % (as of29May 2022). Three (3) States are currently below EI 60%. Regarding the Critical Elements (CEs), CE4 (Qualified technical personnel) improved and is above 60% (60.08%) EI, whereas CE8 (resolution of safety issues) is the only one below EI 60% (59. 47%) EI. All eight areas have an EI above 60%. However, the area of AIG still need more improvement.

Key Actions completed/planned
a. AIG Strategy in the Provision of AIG Functions endorsed by the DGCA-MID/4
b. MENA AIG Regional Cooperation Mechanism (ARCM) endorsed by the DGCA meeting in Kuwait
c. Organized AIG capacity building activities
d. Draft MENA ARCM implementation action plan endorsed by the RSC/7
e. MENA ARCM Establishment and Activation

5.1.3 Sharing of Safety Recommendations related to Accidents and Serious Incidents

a. The Safety recommendations are the utmost results of investigation or safety studies conducted by States. In accordance with the provisions of Annex 13, a State shall send to ICAO a copy of the Final Report on its investigations into accidents and serious incidents involving aircraft of a maximum mass of over 5,700 kgs.

b. A safety recommendation is defined as a proposal by an accident investigation authority, based on information derived from an investigation. The intended purpose of a safety recommendation is the prevention of accidents or incidents, and the reduction of the consequences of such occurrences.

Key Actions completed/planned
a. Establishment of an Ad-hoc Action Group championed by Saudi Arabia and UAE
b. The Questionnaire on establishing safety recommendations platform developed and circulated to MENA ARCM Member States. The questionnaire analysis has been shared with MENA ARCM/2 meeting

5.1.4 Improve Implementation of ELP Requirements

The decision to address language proficiency requirements (LPRs) for pilots and air traffic controllers was first made by the 32nd Session of the ICAO Assembly in September 1998 as a direct response to several fatal accidents, including one that cost the lives of 349 persons, as well as to previous fatal accidents in which the lack of proficiency in English was identified as a contributing factor. The intent was to improve the level of language proficiency in aviation worldwide, and reduce the communication breakdowns caused by a lack of language skills. LPRs have now moved beyond implementation (Assembly Resolution A38-8 refers), entering a phase of post implementation.

Key Actions completed/planned
a. Development and dissemination the Questionnaire on ELP
b. Analysis of the survey results and was reviewed by the RSC/7

5.1.5 Enhance State Oversight on Dangerous Goods

The data analysis results of the USOAP-CMA OPS area showed that the Dangerous Goods is one of the unsatisfactory PQs in operations for some states in the region. The identified issues highlighted in the analysis report as indicated below:

a. States have not implemented an effective system for safety oversight of the various entities involved in the transport of dangerous goods, including shippers, packers, cargo handling companies and air operators. Regarding the latter, some States, the authorities have not effectively reviewed the dangerous goods procedures of air operators, contained in the operations and ground handling manuals, mostly due to a lack of qualified dangerous goods inspectors;
b. Some States have not kept records relating to dangerous goods-related approvals; and
c. In addition, in some States, dangerous goods inspector procedures have not been established and implemented.

Safety actions have been planned to be taken during the year 2020 and 2021. However, due to the COVID-19 pandemic some of the ICAO MID Office work Programme activities have been postponed for 2022 including Dangerous Goods workshop.

Key Actions completed/planned
a. Dangerous Goods webinar
b. Dangerous Goods Capacity building activities

5.1.6 Improve the Safety Management

Despite the fact that the last years have clearly brought continued improvements in safety across every operational domain, the latest accidents and serious incidents and the massive worldwide impact of the COVID-19 pandemic on the aviation system underline the complex nature of aviation safety and the significance of addressing human and organizational factor aspects.

Effective safety management including robust risk management policies and processes are essential in dealing with the multiple impacts of the pandemic on the aviation system, both at authority and organization level. This is supported by ICAO Annex 19 on the reporting, analysis and follow-up of occurrences in civil aviation and when applicable, by flight data monitoring (FDM) requirements.

Therefore, States should build upon fundamental safety oversight systems to fully implement SSPs according to Annex 19, States shall require that applicable service providers under their authority implement an SMS. The SMS enables service providers to capture and transmit safety information which contributes to safety risk management. In this context, the role of the State evolves to include the establishment and achievement of safety performance targets as well as effective oversight of its service providers' SMS. Individual States should provide safety information derived from their SSPs to their respective RASGs to contribute to Regional safety risk management activities. The average EI for SSP foundation PQs for States in the MID Region is 76, 18%.

An SSP requires increased collaboration across operational domains to identify hazards and manage risks. Aviation authorities and organizations should anticipate new emerging threats and associated challenges by developing SRM principles.

Implementation of SSP is one of the main challenges faced by the State in the MID Region. The RASG-MID addresses the improvement of SSP implementation in the MID Region as one of the top Safety Enhancement Initiatives (SEIs). In connection with this, the RSC/7 endorsed the safety management Roadmap and established the Safety Management Implementation Team (SMIT). Furthermore, the RASG-MID/9 endorsed the SMIT handbook to support MID States in the implementation of the SSP in an effective and efficient way

ICAO launched SSP Implementation Assessments (SSPIAs) phase 2 under the USOAP CMA. The assessments are based on a qualitative assessment of a State's progress in implementing a State Safety Programme (SSP), using SSP-related PQs.
The PQs are reflective of Annex 19- Safety Management and the Safety Management Manual (Doc 9859).

Unlike the USOAP CMA's audit activities, SSPIAs are linked to applicable SSP components rather than critical elements (CEs). The SSP components are:

1. State safety policy, objectives and resources;
2. State safety risk management;
3. State safety assurance; and
4. State safety promotion

The SSP assessment covers 8 areas as indicated below:

1. SSP general aspects (GEN);
2. safety data analysis general aspects (SDA);
3. personnel licensing and training (PEL);
4. aircraft operations (OPS);
5. airworthiness of aircraft (AIR), approved maintenance organization (AMO) aspects only;
6. air navigation services(ANS), air traffic services provider (ATSP) aspects only;
7. aerodromes and ground aids (AGA); and
8. aircraft accident and incident investigation (AIG).

In 2020, ICAO developed guidance supporting the determination of maturity levels for each SSP-related PQ. The SSP-related PQs, complemented by the maturity level matrices for each of the SSP audit areas, are available in the CMA Library of the USOAP CMA Online Framework (OLF) at www.soa.icao.int (restricted access). These matrices describe the level of progress for each element of the SSP, which can be described as:

- Not present and not planned;
- Not present but being worked on;
- Present; or
- Present and effective.

ICAO will use the SSP maturity level matrices for the scheduled SSPIAs under Phase 2, which will begin in 2021. This phase of assessments will utilize the maturity level matrices to provide a more detailed, quantitative measurement of a State's progress in the implementation and maintenance of its SSP. Two assessment missions have been planned for the year 2022.

Key Actions completed/planned
a. Conducted continuously SSP/SMS capacity building activities
b. Development of the MID Region Safety Management Implementation Roadmap
c. Establishment of the Safety Management Implementation Team (SMIT) and SMIT Handbook endorsed by RASG-MID/9
d. Establishment the MENA RSOO to support States in the expeditious implementation of SSP
e. Guidance material development
f. Technical Assistance missions

5.1.7 Certification of International Aerodromes

All eight areas have an EI above 60%. In respect of the Critical Elements (CEs), CE4 (Qualified technical personnel) improved and is above 60% (60.08%) EI, whereas CE8 (resolution of safety issues) is the only one below EI 60% (59. 47%) EI. However, the areas of AGA still need more improvement.

Key Actions completed/ planned
a. Conducted Aerodrome Safety Management Workshops
b. Wildlife hazard Management and Control Workshop
c. RSA on Wildlife Management and Control Regulatory Framework & Guidance Material.
d. Certification of Annex 14 training courses
e. GRF training courses

5.1.8 Establishment of Runway Safety Teams at International Airports

All eight areas have an EI above 60%. In terms of the Critical Elements (CEs), CE4 (Qualified technical personnel) improved and is above 60% (60.08%) EI, whereas CE8 (resolution of safety issues) is the only one below EI 60% (59. 47%) EI. However, the areas of AGA still need more improvement

Key Actions completed/planned
a. Runway Safety Go-Team Missions
b. Support States to implement the Global Reporting Format Methodology through capacity building activities

5.1.9 Human Factors and Competence of Personnel

As the aviation system changes, it is imperative to ensure that human factors and the impact on human performance are taken into account, both at service provider and regulatory levels.

Human factors and human performance are terms that are sometimes used interchangeably. While both human factors and human performance examine the capabilities, limitations and tendencies of human beings, they have different emphases:

- Human Factors (HF) – this term focusses on why human beings function in the way that they do. The term incorporates both mental processes and physical ones, and the interdependency between the two.
- Human Performance (HP) – the output of human factors is human performance. This term focusses on how people do the things that they do.

As new technologies emerge on the market and the complexity of the system continues increasing, it is of key importance to have the right competencies and adapt training methods to cope with new challenges. CRM has been identified in the MID ASR as most important human factors issue in the domain of commercial air transport and safety actions would be identified and developed. In addition, Team Resource Management (TRM) was introduced into ATC following the success achieved with Crew Resource Management (CRM) in the airline community enhancing teamwork practices. The practice is applied within virtually every airline with training given to pilots and other operational staff Within the last decade in ATM there have been numerous advances in widespread acceptance of SMS under the guidance of ICAO. ICAO has now mandated the use of SMS Manual Doc 9859 to standardize the approach to safety. TRM as defined by ICAO is an integral component of SMS under human factor

Key Actions completed/planned
a. CRM and TRM workshops/webinars
b. FRMS workshops/webinars

5.1.10 Cybersecurity Resilience

The global civil aviation ecosystem is accelerating towards more digitalization. This implies that any exchange of information within any digital workflow of the aviation community needs to be resilient to information security threats which have consequences on the safety of flight or the availability of airspace and beyond. Aware of the complexity of the aviation system and of the need to manage the cybersecurity risk the MID Region needs to consider and address information security risks in a comprehensive and standardized manner across all aviation domains. In addition, it is essential that the aviation industry and civil aviation authorities share knowledge and learn from experience to ensure systems are secure from individuals/organizations with malicious intent.

Key Actions completed/planned
a. Cybersecurity symposium/workshops
b. Development of MID Region Cybersecurity Action Plan

5.2 Regional Operational Safety Risks

Operational safety risks arise during the delivery of a service or the conduct of an activity (e.g. operation of an aircraft, airports or of air traffic control). Operational interactions between people and technology, as well as the operational context in which aviation activities are carried out are taken into consideration to identify expected performance limitations and hazards. The RASG-MID utilizes available safety data and information to determine the region's operational safety risks which include G-HRCs and additional regional operational safety risks.

5.2.1 Address Operational Safety Risks in Commercial Air Transport (CAT) Aeroplane Operations above 5,700 kgs

In terms of an aircraft accident, the MID Region had no accident during the year 2021. The 5-year average accident rate for 2017-2021 is 2.21, which is slightly below the global average rate (2.41) for the same period The MID Region accident rate in 2020 is higher than the global accident rate, which is 2.14 accidents per million departures.

The MID Region had no fatal accident in 2021. However, the 5-year average fatal accident rate for 2017-2021 is 0.42, which is almost similar to the global average rate (0.41) for the same period. The MID Region had no fatal accidents in 2017, 2019, and 2021. However, two fatal accidents occurred in 2018 and 2020. The 2018 accident caused 66 fatalities and the year 2020 caused 176 fatalities.

The GASP 2023-2025 Edition identifies the G-HRCs as LOC-I, CFIT, MAC, RE and RI. In the MID Region in 2017-2021 the top most frequent accidents related to the loss of control-inflight and runway safety, which includes RE and ARC during Landing. In terms of fatality risk, the fatal accidents for the period 2017- 2021 were attributed to LOC-I.

Therefore, for the triennium of 2023-2025, the MID Region should continue to focus its efforts on mitigating and minimizing occurrences related to the R-HRCs for this time period, namely:

1. Loss of Control-In Flight (LOC-I);
2. Runway Safety (RS); mainly (RE and ARC during landing);
3. Runway Incursion (RI);
4. Controlled Flight into Terrain (CFIT); and
5. Mid-Air Collision (MAC).

MAC is established as a top risk for the MID region based on the existing data driven approach used to determine the R-HRCs though there is no fatal accident during the last five years. Therefore, there is a need for the MID region to build up its capability to collect and analyze safety data pertaining to MAC.

In addition, safety issues have been identified in the MID ASR and need to be considered by the States while developing their NASP as well as the industry as indicated at **Appendix B.**

5.2.2 Aircraft Upset in Flight (Loss of Control-Inflight)

Aircraft upset or loss of control inflight is the most common accident outcome for fatal accidents in CAT aero plane operations. It includes uncontrolled collisions with terrain, but also occurrences where the aircraft deviated from the intended flight path or intended aircraft flight parameters, regardless of whether the flight crew realized the deviation and whether it was possible to recover or not. It also includes the triggering of stall warning and envelope protections. During 2017-2021 aircraft upset, or loss of control contributed to one fatal accidents involving MID Region aeroplane.

Key Actions completed/Planned
a. Organized and promoted training provisions on recovery from upset scenarios (UPRT workshops)
b. Assistance to States to implement the SSP/SMS through workshops/trainings
c. Development and publication of RSAs related to the LOC-I Airplane States Awareness (ASA) – Low Speed Alerting Standard Operating Procedures Effectiveness and Adherence Airplane States Awareness (ASA) –Training –Flight Crew training (Approach to stall & Up set recovery) Verification and Validation
d. Construction, approval and implementation of RNAV(GNSS) / RNP-AR procedures to all runways not currently served by precision approach procedure
e. Develop guidance material/share best practices on Ground Handling Service Provider Certification Process
f. Guidance material on flight crew proficiency
g. Advisory Circular: Mode Awareness and Energy State Management Aspects of Flight Deck Automation

5.2.3 Runway Excursion

Runway excursion covers materialized runway excursions, both at high and low speed, and occurrences where the flight crew had difficulties in maintaining the directional control of the aircraft or of the braking action during landing, where the landing occurred long, fast, off-centred or hard, or where the aircraft had technical problems with the landing gear (not locked, not extended or collapsed) during landing. During the period 2017-2021, Runway Excursions and abnormal runway contact accidents and serious incidents mainly occurred in the landing phase of flight.

Key Actions completed/planned	
a.	Conduct of assistance missions by the Runway Safety Go-Team (RST)
b.	Establishment of a MID-FPP to support states on the effective implementation of the PBN procedures
c.	Promoted operational improvements and safety enhancements associated with the implementation of ASBU modules; e.g. PBN, CDO. Implementation of Performance-Based Navigation (PBN); particularly Approaches with Vertical Guidance (APV)
d.	Assistance to States to implement the SSP/SMS
e.	RSA on Wildlife Management and Control Regulatory Framework & Guidance Material
f.	Support States to implement the Global Reporting Format (GRF) Methodology through Webinar/ Workshops/Training
g.	Guidance material on un-Stabilized Approach
h.	MID Region Action Plan/Milestones on the Global Reporting Format (GRF) Implementation.

5.2.4 Runway Incursion (RI)

A Runway Incursions refers to the incorrect presence of an aircraft, vehicle or person on an active runway or in its areas of protection. Their accident outcome is runway collisions. While there were no fatal accidents or accidents involving MID States operators in the last years involving runway collision, the risk of the reported occurrence demonstrated to be very real. In addition to this, MID States should provide further data analysis regarding runway incursion to identify the root causes and associated safety issues.

Key Actions completed/planned	
a.	Conduct of assistance missions by the Runway Safety Go-Team (RST)
b.	Assistance to States to implement the SSP/SMS

5.2.5 Controlled Flight into Terrain (CFIT)

It comprises those situations where the aircraft collides or nearly collides with terrain while the flight crew has control of the aircraft. It also includes occurrences, which are the direct precursors of a fatal outcome, such as descending below weather minima, undue clearance below radar minima, etc. There was no fatal accident involving MID States operators during this period. This key risk area has been raised by some MID States and in other parts of the world that make it an area of concern. However, additional data is needed for further analysis to identify the underlying safety issues.

Key Actions completed/planned
a. Establishment of MID-FPP to support states on the effective implementation of the PBN procedures
b. Promoted operational improvements and safety enhancements associated with the implementation of ASBU modules; e.g., PBN, CDO, CCO. Implementation of Performance-Based Navigation (PBN); particularly Approaches with Vertical Guidance (APV)
c. Assistance to States to implement PBN routes for en-route and terminal airspace through meeting and workshops/seminars
d. Assistance to States to implement the SSP/SMS
e. Development and publication of RSAs
f. Construction, approval and implementation of RNAV (GNSS) / RNP-AR procedures to all runways not currently served by precision approach procedure
g. Guidance for designing RNP Approach

5.2.6 Mid-Air Collision (MAC)

Refers to the potential collision of two aircraft in the air. It includes direct precursors such as separation minima infringements, genuine TCAS resolution advisories or airspace infringements. Although there have been no aero-plane mid-air collision accidents in recent years within the MID States. This key risk area has been raised by some MID States specifically in the context of the collision risk posed by military aircraft operating in Gulf area over the high seas which are not subject to any coordination with related FIRs for airborne operation. This is one specific safety issue that is a main priority in this key risk area. However, additional data is needed for further analysis to identify the underlying safety issues.

Key Actions completed/planned
a. Assistance to States to implement the SSP/SMS
b. Establishment of Near Mid Air Collision (NMAC) Group to carry out further analyses of the reported NMAC incidents and provide feedback to the ATM SG and ASRG.
c. Conduct workshop to implement Civil-Military cooperation
d. Conduct seminar on raising awareness among stakeholders related to the potential risk of MAC over high seas

5.3 Emerging Risks

Emerging safety issues are risks that might impact Safety in the future. These may include a possible new technology, a potential public policy, a new concept, a business model or idea that, while perhaps an outlier today, could mature and develop into a critical mainstream issue in the future or become a major trend in its own right. Therefore, for the triennium of 2023-2025, the MID Region should continue to focus its efforts on mitigating and minimizing the safety impact of emerging risks for this time period, namely:

a. Support States on establishing the UAS regulatory framework;
b. Decrease the GNSS interference impact;
c. support on maintaining collectively the pre-pandemic high aviation safety level throughout the recovery phase and improving safety post-recovery due to the drastic reduction in traffic volumes due to the COVID-19 crisis and the new risks induced by its impacts
d. Management of security risks with safety impact
e. 5G interference with Radio Altimeter frequency band

The emerging risks SEIs and safety actions will covered under organizational issues and operational safety risk SEIs.

5.3.1 GNSS interference

GNSS interference, including intentional and unintentional signal interference, has been identified as a major safety issue.

Flight Data Exchange analysis showed that the majority of GPS Signal Lost was detected within or in vicinity of Turkish airspace (Ankara FIR and Istanbul FIR), and in Eastern Mediterranean area. Compared to previous analysis, the identified hot spots have been expanded into entire Anatolian peninsula, including Istanbul FIR.

The GNSS interference SEI /safety actions covered under CFIT SEI.

Key Actions completed/t planned
a. RSA on GNSS vulnerability has been developed and published
b. Safety data analysis shared by IATA
c. Raise awareness on the potential impact of GNSS interference on the aviation during the Civil-Mil Workshop
d. Urge States to follow the reporting procedure agreed by MIDANPIRG Conclusion 19/4 when needed

5.3.2 COVID-19 Pandemic Outbreak- Safe return to operations

It was noted that the rapidly evolving COVID-19 crisis heavily affected all aspects of civil aviation. The urgent need to coordinate all efforts to reduce the risks of the spread of COVID-19 by air transport and to protect the health of air travellers and aviation personnel, while maintaining essential aviation transport operations and ensuring an orderly return to normal operations in due course was underlined. The COVID-19 pandemic resulted in an extreme reduction in operations that began in late March 2020. Recovering from this crisis without adversely affecting the high level of safety performance is proposed as a strategic priority.

In addition to the specific operational risks stemming from the crisis, there are currently a substantial number of exemptions and extensions granted; however, the use of flexibility provisions is diminishing. The aviation safety issues arising as a result of the pandemic have been identified and those safety issues that were considered to constitute the highest risk to the aviation system were assessed and resulted in a number of safety interventions and the publication of guidance material including ICAO CART documents to support stakeholders with the management of the specific risks posed by the crisis.
The UAS SEIs /safety actions covered under MAC SEI.

Key Actions completed/planned
a. Establishment of MID Region Recovery Plan Task Force (MID-RPTF) to assist in developing Regional restart and recovery planning
b. MID-RPTF activities
c. Conduct of teleconferences with DGCAs and Regional international organization
d. Development of MID CART Regional Implementation Roadmap
e. Continuous communication and coordination with MID States;
f. Development of a COVID-19 web page to communicate to States and all stakeholders the guidance material issued by ICAO, WHO, international organizations, States best practices and
g. Deployment of iPacks
h. Capacity building activities

5.3.3 Ensure the safe operations of UAS (drones)

The number of drones at the global level has increased. Available evidence demonstrates an increase of drones coming into close proximity with manned aviation (both aeroplanes and helicopters) and the need to mitigate the associated risk. The civil aviation authority is responsible for, inter alia, ensuring aviation safety and protecting the public from aviation hazards. Operators of aircraft, whether manned or unmanned, are likewise responsible for operating safely. The rapid rise of UAS raises new challenges that were not considered in historic aviation regulatory frameworks. Before devising any regulatory framework for UAS operations, the regulator should understand and assess the UAS situation in its State.

UA operations will involve stakeholders' familiar with aviation as well as many who are not. It is important to include these stakeholders from the beginning when developing the UAS regulations. Their early involvement will ensure that the regulations appropriately address the needs of these groups while also serving to educate them on expectations and what is feasible.

Therefore, the safety actions would be developed to support States to develop their national regulations in order to ensure safe operation of UAS.

Key Actions completed/planned
a. UAS iPack deployment
b. Drones symposium
c. Conduct survey on States UAS regulatory framework

5.3.4 Management of security risks with safety impact

The crash of flight MH17 immediately raised the question why the aero plane was flying over an area where there was an ongoing armed conflict. Similar events had occurred in the MID region. Thus, military or terrorist conflicts may occur in any State at any time and pose risks to civil aviation. This is why it's important for governments, aircraft operators, and other airspace users such as air navigation service providers (ANSPs), to work together to share the most up-to-date conflict zone risk-based information possible to assure the safety of civilian flights.

Furthermore, flying over or nearby conflict zones is related to both security and safety management and requires an integrated risk management process, as proposed by ICAO in the second edition of the Risk Assessment Manual for Civil Aircraft Operations Over or Near Conflict Zones (Doc 10084) as an activity for further development. Several steps have to be taken, as part of the continuous risk assessment cycle including: the collection of information and intelligence; the subsequent threat analysis; the security risk assessment; the hazard identification; the safety risk assessment; the determination of the acceptable risk level and lastly information sharing. Each mitigating action should be accompanied with the identification of (new) hazards as a result of unintended consequences of the risk assessment mitigating actions.

The crash of flight MH17 shows, safety and security are intertwined. To manage the risks related to flying over conflict zones and other risks at the interface of safety and security as good as possible, closer cooperation between both worlds is necessary.

Key Actions taken/planned
a- Circulate ICAO Doc 10084 Risk Assessment Manual for Civil Aircraft Operations Over or Near Conflict Zones
b- Organize seminar/Symposium to exchange experiences and good practices on assessing the risks and sharing of information related to the overflying of conflict zones in coordination with RASFG-MID and MIDANPIRG
c- Encourage States to issue NOTAMs to share threats information emanated from conflict zones within their airspaces.

5.3.5 5G Operation on Radio Altimeter

Radar altimeters (RA), operating at 4.2-4.4 GHz, are the only sensors onboard a civil aircraft which provide a direct measurement of the clearance height of the aircraft over the terrain or other obstacles (i.e. the Above Ground Level - AGL - information).

The RA systems' input is required and used by many aircraft systems when AGL is below 2500 ft. Any failures or interruptions of these sensors can therefore lead to incidents with catastrophic outcome, potentially resulting in multiple fatalities. The radar altimeters also play a crucial role in providing situational awareness to the flight crew. The measurements from the radar altimeters are also used by Automatic Flight Guidance and Control Systems (AFGCS) during instrument approaches, and to control the display of information from other systems, such as Predictive Wind Shear (PWS), the Engine-Indicating and Crew-Alerting System (EICAS), and Electronic Centralized Aircraft Monitoring (ECAM) systems, to the flight crew.

There is a major risk that 5G telecommunications systems in the 3.7–3.98 GHz band will cause harmful interference to radar altimeters on all types of civil aircraft- including commercial transport airplanes; business, regional, and general aviation airplanes; and both transport and general aviation helicopters. If there is no proper mitigation, this risk has the potential for broad impacts to aviation operations in the United States as well as in other regions where the 5G network is being implemented next to the 4.2-4.4 GHz frequency band.

List of potential equipment failures:
Auto land functions, EICAS/ECAM, False or missing GPWS alert, Unreliable instrument Indications, and Abnormal behaviors in Automatic Flight Systems.

The 5G interference with Radar Altimeter SEIs/safety actions covered under CFIT SEI.

Key Actions taken/planned
a- Develop a guidance material on safeguarding measures to protect Radio Altimeter from potential harmful interference from 5G Operation
b- Conduct a Webinar addressing the matter to raise awareness and promote the guidance material developed by the RADALT AG.

PART-II. IMPLEMENTATION

6. SAFETY IMPLEMENTATION

6.1 Safety Monitoring and Implementation

This section presents an outline of the safety performance indicators reflecting the MID Region safety strategic priorities in the area of safety. The RASG-MID would use the indicators listed in the MID Region safety performance monitoring at **Appendix C** to measure safety performance and monitor each regional safety target. Furthermore, the MID Region Safety performance monitoring includes six (6) Goals in line with GASP 2023-2025 Edition.

The RASG-MID would continuously monitor the implementation of the identified SEIs in the MID-RASP and measure safety performance of the regional civil aviation system, to ensure the intended targets are achieved, using the MID Region safety performance monitoring to this plan. Therefore, for each Goal established in the MID Region Safety performance monitoring, identified SEI(s) be mapped to it including their respective actions.

MID region safety indicators and targets were aligned with the 2023-2025 GASP goals and targets as relevant in the MID Region. A MID Region Annual safety report would be annually published to provide stakeholders with relevant up-to-date information on the progress made in achieving the regional safety goals and targets, as well as the implementation status/progress of the SEIs.

In the event that the regional safety goals and targets are not met, the causes would be addressed and presented to stakeholders. If RASG-MID identifies critical operational safety risks, reasonable measures would be taken to mitigate them as soon as practicable, possibly leading to an earlier revision of the MID-RASP by SEIG.

The monitoring of safety performance and its enhancement is achieved through identification of relevant Goals and Safety Indicators, taking into consideration the GASP 2023-2025 and regional specific objectives and priorities, as well as the adoption and attainment of Safety Targets with a specific timeframe.

The MID Region Safety performance monitoring includes the following Goals:

Aspirational Goal: Zero fatality by 2030, the GASP aspirational goal of ‘zero fatalities in commercial operations by 2030 and beyond’.

Goal 1: Achieve a Continuous Reduction of Operational Safety Risks: This is related to2023-2025 GASP Goal 1. This is aligned with the high-level ICAO safety metrics, thereby facilitating comparison of MID Region performance with global averages. Indicators related to risk areas are identified through the MID Region risk assessment methodology and described in the MID Region ASR. These ‘operational’ safety indicators would continue to be monitored through the MID Region ASR.

Goal 2: Strengthen States’ safety oversight capabilities: This is related to 2023-2025 GASP Goal 2. The Monitoring will be based on the available data published through USOAP-CMA (OLF) and iSTARS. The Regional average overall Effective Implementation (EI) in the MID Region (13 out of 15 States have been audited) is 74.67 %, which is above the world average 68.68% (as of 29 May 2022). Three (3) States are currently below EI 60%. The objective is aligned with the 2023-2025 GASP requiring all States to improve their score for the effective implementation (EI) of the critical elements (CEs) of the State’s safety oversight system (with focus on priority PQs) as follows: a) by 2024 -75 per cent; b) by 2026 – 85 per cent EI score; c) by 2030 EI Score – 95 per cent EI score.
Goal 3: Implement effective State safety Programmes (SSPs): This is related to 2023-2025 GASP.

Related indicators will mainly be based on data available through ICAO iSTARS and USOAP-CMA (OLF). Feedback provided by Member States and Regional organizations would also be considered. MID Office will in addition collect relevant documentation and information from States (SSP and NASP). The objective is aligned with the 2023-2025 GASP requiring all States to implement the foundation of an SSP by 2023, all States to publish a national aviation safety plan (NASP) by 2024, all States to work towards an effective SSP with maturity levels – Present by 2025, and Present and Effective by 2028.

Goal 4: Increase Collaboration at the Regional Level: This is related to 2023-2025 GASP. Related indicators will mainly be based on data available through ICAO iSTARS and USOAP-CMA (OLF). Feedback provided by Member States would be also considered. The objective is aligned with the 2023-2025 GASP requiring all States to achieve a positive safety oversight margin, and an effective SSP, to actively lead RASGs' safety risk management activities, by 2025.

Goal 5: Expand the use of Industry Programmes and safety information sharing networks: This is related to 2023-2025 GASP. Related indicators will mainly be collected from IATA and other international and Regional organizations. Feedback provided by Member States would also be considered. The objective is aligned with the 2023-2025 GASP requiring all States that do not expect to meet GASP Goals 2 and 3 to seek assistance to strengthen their safety oversight capabilities or facilitate SSP implementation, all States to contribute information on operational safety risks, including SSP safety performance indicators regional aviation safety group (RASG) by 2025, and all regions to publish an updated regional aviation safety plan (RASP), in line with the 2023–2025 edition of GASP by 2023.

Goal 6: Ensure the appropriate infrastructure is available to support safe operations: This is related to 2023-2025 GASP Goal 6. Related indicators will mainly be based on data available through ICAO iSTARS. Feedback provided by Member States would also be considered. The objective is aligned with the 2023-2025 GASP requiring all States to implement the air navigation and airport core infrastructure including aerodrome safety by 2025.

6.2 Communication of Progress to RASG-MID and Regional Stakeholders

A MID Region Annual safety report would be annually published to provide stakeholders with relevant up-to-date information on the progress made in achieving the regional safety goals and targets, as well as the implementation status of the SEIs. In addition, the abovementioned information would culminate in a report on progress of implementation of the MID-RASP SEIs and their respective actions as well as in achieving the regional safety goals and targets; would be presented at every SEIG and RASG-MID meetings as well as safety seminars. The progress report should cover at least the following aspects:

a. Brief overview of the overall implementation of the MID-RASP;
b. Analysis on delay/ challenges encountered in implementation of SEIs and their respective actions; and
c. If regional safety goals and targets are not met, causes would be addressed and presented to relevant stakeholders.

7 SAFETY ACTIONS

This chapter addresses system-wide problems that affect aviation as a whole including the SEIs and their respective actions. In most scenarios, these problems are related to organizational processes and procedures, regional operational safety risks, and emerging risks. The safety actions in this chapter are driven principally by the need to maintain or increase the current level of safety in the aviation sector for the region.

This chapter also facilitates the identification of SEIs and their respective actions relevant for each Goal

established in the MID Region Safety performance monitoring as follows:

- **Goal 1:** Achieve a continuous reduction of operational safety risks.
- **Goal 2:** strengthen States safety oversight capabilities.
- **Goal 3:** Implementation of effective State safety Programmes.
- **Goal 4:** Increase collaboration at the regional level.
- **Goal 5:** Expand the use of industry Programmes and safety information sharing networks.
- **Goal 6:** Ensure the appropriate infrastructure is available to support safe operations.

7.1 Organizational Challenges/issues

7.1.1 Goal 2: Strengthen States' Safety Oversight Capabilities

The States safety oversight capabilities remains an issue mainly for AIG, AGA, ANS, and OPS areas. The lack of effective oversight remains an issue and the difficulties experienced by some authorities in properly discharging their oversight responsibilities is a concern also in the light of the size, scope and complexity of the aviation industry that some of them oversee.
Furthermore, while a number of CAAs have reached a suitable and stable level of maturity, certain continue to underperform and/or struggle in achieving sustainable improvements. Most notably, while progress has been noted in the implementation of Authorities' management systems, effective oversight of undertakings' safety management systems continues to be an area of concern in several domains.

7.1.1.1 G2-SEI-01: Strengthening States' Safety Oversight Capabilities

Target: The safety targets of this goal are indicated in the MID Region safety performance monitoring at **Appendix C.**

Rationale:
The CEs are essentially the safety defense tools of the State Safety Oversight system needed for the effective and sustainable implementation of a safety-related policy and associated procedures. The effective implementation of the CEs is an indication of a State's capability for safety oversight. States must establish CE-1 through CE-5 prior to the implementation of CE-6 through CE-8 in order to provide effective safety oversight and safety management. An individual State's responsibility for safety oversight is the foundation upon which a safe global air transport system is built. States that experience difficulties in carrying out safety oversight functions can impact the state of International Civil Aviation.

States should work to continually improve their effective implementation of the eight CEs of the State's safety oversight system in all relevant areas, as appropriate to their aviation system complexity. Through collaborative efforts, the level of effective implementation of the CEs of a State's safety oversight system can increase, particularly in those States where a State faces shortages of human, financial or technical resources.

The below elements are considered enablers of a robust safety oversight system, expected to be in place according to the requirements in force:

1. ability and determination to conduct effective oversight;
2. ability to identify risks through a process to collect and analyze data;
3. ability to mitigate the identified risks in an effective way, implying measurement of performance and leading to continuous improvement;
4. willingness and possibility to exchange information and cooperate with other CAAs;
5. ability to ensure the availability of adequate personnel, where 'adequate' includes the notion of sufficient training and proper qualification; and
6. focus on the implementation of effective management systems in industry, wherever required by the regulations in force.

What we want to achieve:

A robust oversight system across MID Region, where each CAA is able to properly discharge its oversight responsibilities, with particular care to exchange of information and cooperation with other CAAs and to the implementation of management systems in all organizations, as well as to ensure the availability of adequate personnel in CAAs. In addition, to Support MID Region States' civil aviation authorities to Strengthen States' Safety Oversight Capabilities and increase progressively the USOAP-CMA EI results.

How we monitor improvement:
Significant increase of the number of States with an EI above 60% and implementing risk-based oversight.

How we want to achieve it: This SEI should be considered by States for inclusion in their NASPs.

Actions to be taken: A1-A2-A3-A4
A1- Conduct Capacity Building Activities to promote effective implementation of SARPs,
A2- Conduct technical assistance activities and NCLB missions to States with a focus on ANS, AGA, AIG, and OPS areas.
A3- Develop and implement a specific NCLB plan of actions for prioritized States
A4- Conduct a Capacity Building Activity for Aerodrome Inspectors (Training Course on Aerodrome Inspection) (Action addressed under **G6-SEI-01 A5)**

References: ICAO SARPs and guidance documents and 2023-2025 GASP Goal 2 "Strengthen States' safety oversight capabilities"

Component 1 — State Safety Oversight (SSO) System

Phase 1 — Establishment of a Safety Oversight Framework

- GASP SEI-1: Consistent implementation of ICAO SARPs at the national level.
- GASP SEI-3: Regional safety enhancement initiatives to support consistent coordination of Regional Programmes in establishing adequate safety oversight capabilities.
- GASP SEI-4 & GASP SEI-10: Strategic collaboration with key aviation stakeholders to enhance safety in a coordinated manner.
- GASP SEI-5: Provision of the Regional safety information to ICAO by asking States to complete, submit and update all relevant documents and records.

Phase 2 — Implementation of a Safety Oversight System

- GASP SEI-6: Continued implementation of and compliance with ICAO SARPs at the Regional level.
- GASP SEI-8: Strategic collaboration with key aviation stakeholders to enhance safety in a coordinated manner.
- GASP SEI-9: Continued provision of the primary source of Regional safety information to ICAO by asking States to update all relevant documents and records as progress is made.

Stakeholders: RASG-MID, MIDANPIRG, States, international organizations, and industry

Action 1: Conduct Capacity Building Activities to promote effective implementation of SARPs	
Owner:	ICAO, States, international organizations, and industry
Priority:	Medium
Completion date:	2025
Status:	Ongoing
Action 2: Conduct technical assistance and NCLB missions to States with focus on ANS, AGA, AIG, and OPS areas	
Owner:	ICAO
Priority:	High
Completion date:	2025
Status:	Ongoing
Action 3: Develop and implement a specific NCLB plan of actions for prioritized States	
Owner:	ICAO and concerned States
Priority:	High
Completion date:	2025
Status:	Ongoing
Action 4: Conduct a Capacity Building Activity for Aerodrome Inspectors (Training Course on Aerodrome Inspection) (Action addressed under G6-SEI-01 A5)	
Owner:	States (Qatar) and ICAO
Priority:	Medium
Completion date:	2025
Status:	New

EXPECTED OUTPUT	
Deliverable(s)	**Timeline**
MID States to improve their score for the effective implementation (EI)	2025

7.1.1.2 G2-SEI-02: Improve Regional Cooperation for the Provision of Accident & Incident Investigation

Target/Metrics: The safety targets of this goal are indicated in the MID Region safety performance monitoring at **Appendix C**.

Rationale:
States should work to continually improve their effective implementation of the CEs of the State's safety oversight system in the area of AIG. Through collaborative efforts and joining the MENA ARCM, the level of effective implementation of the CEs of a State's AIG can increase, particularly in those States where a State faces shortages of human, financial or technical resources.

What we want to achieve:
MID Region States' to Strengthen States' Safety Oversight Capabilities and increase progressively the USOAP-CMA EI results in the area of AIG.

How we monitor improvement:
Increase of the number of States with an EI above 60% for AIG area and then establishing an independent aircraft accident and incident investigation authority.

How we want to achieve it:

Actions to be taken: A1-A2
A1- Support of MENA ARCM activities
A2- Conduct AIG Capacity Building Activities.

References: ICAO SARPs and guidance documents and 2023-2025 GASP Goal 2 “Strengthen States’ safety oversight capabilities"

Component 1 — State Safety Oversight (SSO) System

Phase 1 — Establishment of a Safety Oversight Framework

- GASP SEI-2: Establishment of an independent Regional accident and incident investigation process, consistent with Annex 13.
- GASP SEI-3: Regional safety enhancement initiatives to support consistent coordination of Regional Programmes in establishing adequate safety oversight capabilities.
- GASP SEI-4: Strategic collaboration with key aviation stakeholders to enhance safety in a coordinated manner.

Stakeholders: RASG-MID, States, international organization, and industry

Action 1: Support of MENA ARCM activities

Owner: ICAO, ACAO, and MENA ARCM Member States

Priority: High

Completion date: 2025

Status: Ongoing

Action 2: Conduct AIG Capacity Building Activities.

Owner: ICAO, States, international organizations, and industry

Priority: Medium

Completion date: 2025

Status: Ongoing

EXPECTED OUTPUT

Deliverable(s)	**Timeline**
MID States to improve their score for the effective implementation (EI) especially the area of AIG	2025

7.1.1.3 G2-SEI-03: Sharing of Safety Recommendations related to Accidents and Serious Incidents

Target/Metrics: The safety targets of this goal are indicated in the MID Region safety performance monitoring at **Appendix C**.

Rationale:
States should work to continually improve their effective implementation of the CEs of the State’s safety oversight system in the area of AIG. Through collaborative efforts, the level of effective implementation of the CEs of a State’s AIG can increase, particularly in those States where a State faces shortages of human, financial or technical resources.

What we want to achieve:
MID Region States' civil aviation authorities to Strengthen States' Safety Oversight Capabilities and increase progressively the USOAP-CMA EI results in the area of AIG. In addition, the prevention of accidents or incidents, and the reduction of the consequences of such occurrences.

How we monitor improvement:
Increase of the number of States with an EI above 60% for AIG area and establishing an independent aircraft accident and incident investigation authority.

How we want to achieve it:

Action to be taken: A1
A1- Establishing a Platform for Sharing Safety Recommendations for MENA ARCM Member States

References: ICAO SARPs and guidance documents and 2023-2025 GASP Goal 2 "Strengthen States' safety oversight capabilities"

Component 1 — State Safety Oversight (SSO) System

Phase 1 — Establishment of a Safety Oversight Framework

- GASP SEI-3: Regional safety enhancement initiatives to support consistent coordination of Regional Programmes in establishing adequate safety oversight capabilities
- GASP SEI-4: Strategic collaboration with key aviation stakeholders to enhance safety in a coordinated manner

Stakeholders: RASG-MID, States, and international organization	
Action 1: Development of platform on sharing safety recommendations	
Owner:	ICAO, ACAO, and MENA ARCM Member
Priority:	Low
Completion date:	2025
Status:	On-hold
EXPECTED OUTPUT	
Deliverable(s)	**Timeline**
Improve MID States the effective implementation (EI) in the area of AIG	2025

7.1.1.4 G2-SEI-04: Enhance State Oversight on Dangerous Goods

Target/Metrics: The safety targets of this goal are indicated in the MID Region safety performance monitoring at **Appendix C**.

Rationale:
States should work to continually improve their effective implementation of the eight CEs of the State's safety oversight system in the area of OPS.

What we want to achieve:
States to implement an effective system for safety oversight of the various entities involved in the transport of dangerous goods. In addition, MID Region States' to Strengthen States' Safety Oversight

Capabilities and increase progressively the USOAP-CMA EI results in the area of OPS and enhance the state oversight on Dangerous Goods

How we monitor improvement:
Increase of the number of States with an EI above 60% for OPS area and then to Strengthen States' Safety Oversight Capabilities.

How we want to achieve it: This SEI should be considered by States for inclusion in their NASPs.

Actions to be taken: A1
A1- Conduct Dangerous Goods (DG) capacity building activities including Lithium batteries fires/smoke risks in cabin
A2- Develop guidance material on carriage and transport of Lithium batteries

References: ICAO SARPs and guidance documents and 2023-2025 GASP Goal 2 "Strengthen States' safety oversight capabilities" and ICAO Annex 18 "Safe Transport of Dangerous Goods by Air".

Component 1 — State Safety Oversight (SSO) System

Phase 1 — Establishment of a Safety Oversight Framework

GASP SEI-1: Consistent implementation of ICAO SARPs at the national level

Phase 2 — Implementation of a Safety Oversight System

GASP SEI-6: Continued implementation of and compliance with ICAO SARPs at the Regional level

Stakeholders: RASG-MID, States, international organizations, and industry

Action 1- Conduct Dangerous Goods (DG) capacity building activities including Lithium batteries fires/smoke risks in cabin

Owner: ICAO, States, international organizations, and industry.

Priority: Medium

Completion date: 2025

Status: Ongoing

Action 2: Develop guidance material on carriage and transport of Lithium batteries

Owner: IATA

Priority: Medium

Completion Date: 2025

Status: Ongoing

EXPECTED OUTPUT

Deliverable(s)	**Timeline**
MID States to improve their score for the effective implementation (EI) especially the area of OPS	2025

7.1.1.5 G2-SEI-05: Human factors and Competence of Personnel

Target/Metrics: The safety targets of this goal are indicated in the MID Region safety performance monitoring at **Appendix C**.

Rationale:
Human factors and competence of personnel are strategic priorities in the region. Human factors and the impact on human performance, as well as medical fitness are strategic priorities. As new technologies and/or operating concepts emerge on the market and the complexity of the system continues increasing, it is of key importance to properly address human factors and human performance, in terms of both limitations and its contribution to delivering safety, as part of the safety management implementation. CRM has been identified in the MID ASR as most important human factors issue in the domain of commercial air transport Aeroplanes above 5700 kgs. The safety actions related to competence of personnel mainly English language proficiency would be further developed in the future.

The main objectives of TRM for operational staff are the development of attitudes and behaviour, which will contribute to enhanced teamwork skills and performance in order to reduce teamwork failures as contributory factors in ATM related incidents and accidents. The benefits of TRM are considered to be enhanced Threat and Error Management capabilities, continuity and stability of teamwork, task efficiency, sense of working as a part of a larger and more efficient team, increased job satisfaction; and improved use of staff resources.

In addition, the safety action identified currently related to aviation personnel is also focusing on fatigue risk management (FRMS) by COVID-19 to mitigate safety issues in all domains such as personal readiness, flight crew perception or crew resource management (CRM) and communication, which play a role in improving safety across all aviation domains.

What we want to achieve:
Ensure continuous improvement in safety management activities as related to human factors and human performance.

How we monitor improvement:
Improvement in aviation personnel competence at all levels and then to Strengthen States' Safety Oversight Capabilities.

How we want to achieve it: This SEI should be considered by States for inclusion in their NASPs.

Actions to be taken: A1-A2-A3-A4
A1- Advisory Circular: Crew Resource Management Training Programme (CRM). **(Action addressed under G1-SEI-04:CFIT)**
A2- Conduct Crew Resource Management capacity building activities
A3- Organize Team Resource Management capacity building activities
A4- FRMS capacity building activities

References: ICAO SARPs and guidance documents and 2023-2025 GASP Goal 2 "Strengthen States' safety oversight capabilities". ICAO Human Performance Manual (ICAO Doc 10151) and ICAO Safety Management Manual (ICAO Doc 9859).

Component 1 — State Safety Oversight (SSO) System

Phase 1 — Establishment of a Safety Oversight Framework

GASP SEI-1: Consistent implementation of ICAO SARPs at the national level

Stakeholders: RASG-MID, States, industry, international organizations	
Action 2: Organize Crew Resource Management capacity building activities	
Owner:	ICAO, States, international organizations, and industry.
Priority:	Medium
Completion date:	2023
Status:	ongoing
Action 3: Organize Team Resource Management capacity building activities	
Owner:	ICAO, States, international organizations, and industry
Priority:	Medium
Completion Date:	2023
Status:	ongoing
Action 4: FRMS capacity building activities	
Owner:	ICAO, States, international organizations, and industry
Priority:	Medium
Completion Date:	2025
Status:	ongoing

EXPECTED OUTPUT

Deliverable(s)	**Timeline**
MID States to improve their score for the effective implementation (EI) and mitigate contributing factors to accidents and incidents	2025

7.1.1.6 G2-SEI-06: Management of security risks with safety impact

Target/Metrics: The safety targets of this goal are indicated in the MID Region safety performance monitoring at **Appendix C**.

Rationale:
The safety action in this area is aimed at mitigating the security related safety risks. The safety action in this area also include the mitigation of the risks posed by flying over zones where an armed conflict exists. Managing the impact of security on safety is a strategic priority in MID region.

What we want to achieve:
Increase safety by managing the impact of security on safety and mitigating related safety risks.

How we monitor improvement:
Continuous assessment and mitigation of security threats.

How we want to achieve it: This SEI should be considered by States for inclusion in their NASPs.

Actions to be taken: A1
Action 1- Organize seminar/Symposium/workshop to exchange experiences and good practices on assessing the risks and sharing of information related to the overflying of conflict zones in coordination with RASFG-MID and MIDANPIRG

References: ICAO SARPs and guidance documents and 2023-2025 GASP Goal 2 “Strengthen States’ safety oversight capabilities". ICAO Annex 17.

Component 1 — State Safety Oversight (SSO) System

Phase 1 — Establishment of a Safety Oversight Framework

- GASP SEI-1: Consistent implementation of ICAO SARPs at the national level

Stakeholders: RASG-MID, RASFG-MID, MIDANPIRG, States, international organizations, industry
Action 1- Organize seminar/Symposium/workshop to exchange experiences and good practices on assessing risks and sharing of information related to the overflying of conflict zones in coordination with RASFG-MID and MIDANPIRG
Owner: ICAO
Priority: High
Completion date: 2023
Status: Ongoing

EXPECTED OUTPUT	
Deliverable(s)	**Timeline**
mitigate contributing factors to accidents and incidents	2025

7.1.1.7 G2-SEI-07: Managing cybersecurity risks

Target/Metrics: The safety targets of this goal are indicated in the MID Region safety performance monitoring at **Appendix C**.

Rationale:
The safety action in this area is aimed at mitigating the cybersecurity related safety risks. Assess the safety impact of cybersecurity threats to aviation users, support the development of mitigations and specific Training actions, identify and mitigate the vulnerabilities of aviation products and identify the required changes to aviation standards.

What we want to achieve:
Increase safety by managing the impact of cybersecurity on safety and mitigating related safety risks.

How we monitor improvement:
Continuous assessment and mitigation of cybersecurity threats.

How we want to achieve it: This SEI should be considered by States for inclusion in their NASPs.

Actions to be taken: A1-A2-A3
A1- Develop a Regional Action Plan to bridge the gap between ICAO Cyber Security Action plan and the implementation level of Cyber Resilience in the MID Region
A2- Conduct activities on Cyber Security and Resilience- (Jointly ANS and AVSEC)
A3- Develop a MID Region Cybersecurity Action Plan**.**

References: ICAO SARPs and guidance documents and 2023-2025 GASP Goal 2 “Strengthen States’ safety oversight capabilities". ICAO Annex 17.

Component 1 — State Safety Oversight (SSO) System

Phase 1 — Establishment of a Safety Oversight Framework

- GASP SEI-1: Consistent implementation of ICAO SARPs at the national level

Stakeholders: RASG-MID, RASFG-MID, MIDANPIRG, States, international organizations, industry	
Action 1- Develop a Regional Action Plan to bridge the gap between ICAO Cyber Security Action plan and the implementation level of Cyber Resilience in the MID Region	
Owner:	ANS Cyber SeC Action group
Priority:	Medium
Completion date:	2025
Status:	New
Action 2- Conduct activities on Cyber Security and Resilience	
Owner:	ICAO
Priority:	Medium
Completion date:	2025
Status:	New
Action 3: Develop a MID Region Cybersecurity Action Plan	
Owner:	Cybersecurity Security Ad-hoc Group
Priority:	Medium
Completion date:	2025
Status:	New

EXPECTED OUTPUT	
Deliverable(s)	**Timeline**
mitigate contributing factors to accidents and incidents	2025

7.1.1.8 G2-SEI-08: Impact of COVID-19 pandemic- Safe return to operations

Target/Metrics: The safety targets of this goal are indicated in the MID Region safety performance monitoring at **Appendix C**.

Rationale:
States should manage a dedicated safety promotion campaign in support of safe return to operations. The safety action in this area is aimed at mitigating the COVID-19 pandemic related safety risks. The safety action in this area would focus on continuous support to the MID-RPTF and sharing of guidance material/best practices to mitigate the risks stemmed from the pandemic.

What we want to achieve:
Increase safety by managing the impact of COVID-19 pandemic on safety and mitigating related safety risks.

How we monitor improvement:
Continuous assessment and mitigation of COVID-19 pandemic induced safety risks.
.
How we want to achieve it: This SEI should be considered by States for inclusion in their NASPs.

Actions to be taken: A1-A2
A1- Continued support to the aviation industry through MID-RPTF meetings/Activities, as needed
A2- Sharing of guidance material/best practices

References: ICAO SARPs and guidance documents and 2023-2025 GASP Goal 2 “Strengthen States’ safety oversight capabilities".

Component 1 — State Safety Oversight (SSO) System

Phase 1 — Establishment of a Safety Oversight Framework

- GASP SEI-1: Consistent implementation of ICAO SARPs at the national level

Stakeholders: RASG-MID, RASFG-MID, MIDANPIRG, States, international organizations, industry	
Action 1- Continued support to the aviation industry through MID-RPTF Activities, as needed	
Owner:	States, international organizations, and industry
Priority:	High
Completion date:	2025
Status:	Ongoing
Action 2: Sharing of guidance material/best practices	
Owner:	States, international organizations, and industry
Priority:	High
Completion date:	2025
Status:	Ongoing
EXPECTED OUTPUT	
Deliverable(s)	**Timeline**
mitigate contributing factors/safety issues to accidents and incidents	2025

7.1.2 Goal 3: Implementation of Effective States Safety Programme (SSP)

7.1.2.1 G3-SEI-01: Implement an effective Safety Management

Target: The safety targets of this goal are indicated in the MID Region safety performance monitoring **at Appendix C.**

Rationale:
Management of safety in a systematic and proactive way enables authorities and organizations to set up management systems that take into consideration potential hazards and associated risks before aviation accidents occur. This global move is at the core of ICAO Annex 19. This safety area would enable further work to improve reporting processes, occurrence investigation at organizational level, and also the continued development of integrated data collection taxonomies.

What we want to achieve:
MID Region States to implement SSP and consequently their services providers to implement SMS. In addition, work with authorities and organizations to implement safety management.

How we monitor improvement:
ICAO Annex 19 framework requiring safety management is in place across all aviation domains, and organizations and authorities are able to demonstrate compliance.

How we want to achieve it: This SEI should be considered by States for inclusion in their NASPs.

States to give priority to the work on SSPs
In the implementation and maintenance of the SSP, States should in particular:

- ensure effective implementation of the Annex 19 Requirements and address deficiencies in oversight capabilities, as a prerequisite for effective SSP implementation;
- ensure effective coordination between State authorities having a role in safety management;
- ensure that inspectors have the right competencies to support the evolution towards risk- and performance based oversight;
- ensure that policies and procedures are in place for risk- and performance based oversight, including a description of how an SMS is accepted and regularly monitored;
- establish policies and procedures for safety data collection, analysis, exchange and protection;
- establish a process to determine safety performance indicators at State level addressing outcomes and processes;
- ensure that an approved SSP document is made available and shared with other States; and
- ensure that the SSP is regularly reviewed and that SSP effectiveness is regularly assessed;
- ensure that the specific safety risks induced by COVID-19 be assessed and be included in the State risk picture.

SMS Assessment
States should make use of the available tools to support risk- and performance-based oversight. States also should regularly monitor status of compliance with SMS requirements of their industry.

SMS international cooperation
States should promote the common understanding of safety management and human factors principles and requirements in different countries, share lessons learned and encourage progress and harmonization, through active participation in the RASG-MID and other safety groups and fora.

FDM precursors of main operational safety risks
States in partnership with industry, other regional and international organizations should complete the good practice documentation which supports the inclusion of main operational safety risks such as RE, RI, LOC-I, CFIT and MAC into operators' FDM Programmes.

States to set up a regular dialogue with their national aircraft operators on flight data monitoring (FDM) Programmes
States to set up a regular dialogue with their national aircraft operators on flight data monitoring (FDM) Programmes, with the objectives of:

- promoting the operational safety benefits of FDM,
- fostering an open dialogue on FDM Programmes that takes place in the framework of just culture,
- encouraging operators to include and further develop FDM events relevant for the prevention of REs, MACs, CFIT and LOC-I, or other issues identified by the SSP

Actions : A1-A2
A1- Conduct SSP/SMS capacity building activities
A2- Conduct technical assistance missions by SMIT

References: ICAO Annex 19 and GASP 2023-2025 Goal 3 “Implement effective State Safety Programmes"

Component 2 — State Safety Programme

- GASP SEI-10: Start of promotion of SSP implementation at the Regional level.
- GASP SEI-11: Regional safety enhancement initiatives to support consistent coordination of Regional Programmes for SSP implementation.
- GASP SEI-12: Strategic collaboration with key aviation stakeholders to support SSP implementation.
- GASP SEI-13: Start of SSP implementation at the national level.
- GASP SEI-14: Regional allocation of resources to support continued development of the proactive use of risk modelling capabilities.
- GASP SEI-15: Regional collaboration with key aviation stakeholders to support the proactive use of risk modelling.
- GASP SEI-16: Advancement of safety risk management at the Regional level.

Component 2 — State Safety Programme

GASP SEI-7: Strategic collaboration with key aviation stakeholders to complete SSP implementation

Stakeholders: RASG-MID, States, industry, international organizations	
Action 1- Conduct SSP/SMS training courses and workshops	
Owner:	ICAO, supported by organizations, and industry
Priority:	High
Completion Date:	2025
Status:	ongoing
Action 2- Conduct technical assistance missions by SMIT	
Owner:	ICAO and SMIT Team
Priority:	High
Completion Date:	2025
Status:	New

EXPECTED OUTPUT	
Deliverable(s)	Timeline
MID States to implement the foundation of an SSP	**2023**
MID States to implement an effective SSP	**2025**

7.1.2.2 G3-SEI-02: NASP Development & Implementation

Target: The safety targets of this goal are indicated in the MID Region safety performance monitoring

at Appendix C.

Rationale:
States should ensure that a NASP is maintained and regularly reviewed. The MID-RASP provides the identified safety priorities in the Region and States should identify which top risks and key issues mentioned in the GASP and MID-RASP; which apply to their national context, and identify suitable mitigation actions within their NASP. States should also add/consider others which are unique to their operational context.
.

What we want to achieve:
MID Region States to develop NASP. Successful implementation of the NASP actions would require the commitment of resources from stakeholders within State, availability of data to effectively monitor the achievement of NASP Targets, and proper project governance. In addition to the actions, NASP shall also consider how to measure their effectiveness.

How we monitor improvement:
ICAO GASP requiring States to develop NASP and region to develop RASP.

How we want to achieve it: This SEI should be considered by States for inclusion in their NASPs.

States to establish and maintain a National Aviation Safety Plan (NASP)
States should ensure that a NASP is maintained and regularly reviewed. NASP should:

- describe how the plan is developed and endorsed, including collaboration with different entities within the State, with industry and other stakeholders;
- include safety objectives, goals, indicators and targets in line with in line with GASP as well as regional safety plan;
- identify the main safety risks at national level in addition to the ones identified in MID-RASP as applicable to the State;
- include series of SEIs to address safety issues; and
- Reflect the GASP and MID-RASP SEIs as applicable to the State.

Actions : A1-A2
A1- Conduct NASPs workshops & technical assistance missions
A2- NASP iPacks deployment

References: ICAO Annex 19 and GASP 2023-2025 Goal 3 “Implement effective State Safety Programmes"

Component 2 — State Safety Programme

- GASP SEI-10: Start of promotion of SSP implementation at the Regional level.
- GASP SEI-11: Regional safety enhancement initiatives to support consistent coordination of Regional Programmes for SSP implementation.
- GASP SEI-12: Strategic collaboration with key aviation stakeholders to support SSP implementation.
- GASP SEI-13: Start of SSP implementation at the national level.
- GASP SEI-14: Regional allocation of resources to support continued development of the proactive use of risk modelling capabilities.
- GASP SEI-15: Regional collaboration with key aviation stakeholders to support the proactive use of risk modelling.
- GASP SEI-16: Advancement of safety risk management at the Regional level.

Component 2 — State Safety Programme

GASP SEI-7: Strategic collaboration with key aviation stakeholders to complete SSP implementation

Stakeholders: RASG-MID, States, industry, international organizations	
Action 1- Conduct NASPs workshops & technical assistance missions	
Owner:	ICAO
Priority:	High
Completion Date:	2025
Status:	Ongoing
Action 2- NASP iPacks deployment	
Owner:	ICAO and States
Priority:	High
Completion Date:	2025
Status:	New

EXPECTED OUTPUT	
Deliverable(s)	Timeline
MID States to develop and implement NASP	2025

7.1.3 Goal 4: Increase Collaboration at the Regional Level

7.1.3.1 G4-SEI-01: Development and Implementation of MID-RASP

Target: The safety targets of this goal are indicated in the MID Region safety performance monitoring **at Appendix C.**

Rationale: The RASG-MD is the governing body responsible for the development, implementation and monitoring of the MID-RASP, in collaboration with the ICAO MID Office, international and regional organizations and with the aviation industry. The MID-RASP is to be reviewed by the Safety Enhancement Implementation Group (SEIG) every year mainly to include new identified Safety Enhancement initiatives' (SEIs), review the existing SEIs, as well as their respective actions.

What we want to achieve:
States, international organization, and industry to increase collaboration at the regional level so that to enhance safety.

How we monitor improvement:
MID region to publish an updated regional aviation safety plan (MID-RASP), in line with the 2023–2025 edition of GASP.

How we want to achieve it: This SEIs included in MID-RASP to be considered by States for inclusion in their NASPs.

References: GASP 2023-2025Goal 4 "Increase collaboration at the Regional level"

Actions to be taken: A1
A1- Development and Implementation of MID-RASP 2023-2025 Edition

Component 1 — State Safety Oversight (SSO) System

Phase 1 — Establishment of a Safety Oversight Framework

- GASP SEI- SEI-1: Consistent implementation of ICAO SARPs at the Regional level.
- GASP SEI-3: Regional safety enhancement initiatives to support consistent coordination of Regional Programmes in establishing adequate safety oversight capabilities.
- GASP SEI-5: Provision of the Regional safety information to ICAO by asking States to complete, submit and update all relevant documents and records.

Phase 2 — Implementation of a Safety Oversight System

GASP SEI-9: Continued provision of the primary source of Regional safety information to ICAO by asking States to update all relevant documents and records as progress is made.

Stakeholders: RASG-MID, MIDANPIRG, RASFG-MID, States, International organizations, and industry.

Action 1: Development and Implementation of MID-RASP 2023-2025 Edition	
Owner:	SEIG
Priority:	High
Completion date:	2025
Status:	Ongoing

EXPECTED OUTPUT	
Deliverable(s)	**Timeline**
To manage and enhance safety at the regional	2025

7.1.3.2 G4-SEI-02: Enhance collaboration between States, international organizations, and industry

Target: The safety targets of this goal are indicated in the MID Region safety performance monitoring **at Appendix C.**

Rationale: cooperation and collaboration among all stakeholders through conducting MID RCM meetings and agreeing on joint activities to avoid duplication of effort.

What we want to achieve:
States, international organization, and industry to increase collaboration at the regional level so that to enhance safety.

How we monitor improvement: Reinforce efficient and effective cooperation and collaboration with all stakeholders, avoiding duplication and optimizing the allocation of resources at the regional level.

How we want to achieve it: Joint Programme activities

References: GASP 2023-2025 Goal 4 "Increase collaboration at the Regional level"

Actions to be taken: A1-A2
A1- Develop and agree on joint work activities through MID-RCM meetings
A2- Support the establishment of MENA RSOO and its activities

Component 1 — State Safety Oversight (SSO) System

Phase 1 — Establishment of a Safety Oversight Framework

- GASP SEI- SEI-1: Consistent implementation of ICAO SARPs at the Regional level.
- GASP SEI-3: Regional safety enhancement initiatives to support consistent coordination of Regional Programmes in establishing adequate safety oversight capabilities.
- GASP SEI-5: Provision of the Regional safety information to ICAO by asking States to complete, submit and update all relevant documents and records.

Phase 2 — Implementation of a Safety Oversight System

GASP SEI-9: Continued provision of the primary source of Regional safety information to ICAO by asking States to update all relevant documents and records as progress is made.

Stakeholders: RASG-MID. MIDANPIRG, RASFG-MID, States, international organizations, and industry.

Action 1: Develop and agree on joint work activities through MID RCMs	
Owner:	ICAO, States, international organizations, industry
Priority:	High
Completion date:	2025
Status:	New
Action 2: Support the establishment of MENA RSOO and its activities	
Owner:	ICAO and States
Priority:	Medium
Completion date:	2025
Status:	New

EXPECTED OUTPUT

Deliverable(s)	**Timeline**
To increase States USOAP EI and SSP level of maturity.	2025

7.2.1 Goal 5: Expand the Use of Industry Programmes and safety information sharing networks

7.1.4.1 G5-SEI-01: Promote the Use of industry Programmes

Target: The safety targets of this goal are indicated in the MID Region safety performance monitoring at **Appendix C.**

Rationale:

What we want to achieve:
Work with authorities and organizations to increase the number of service providers participating in the corresponding ICAO recognized industry assessment Programmes.

H**ow we monitor improvement:**
Increase the number of service providers participating in the corresponding ICAO recognized industry assessment Programmes. The RASG-MID, IATA, and ACI will give feedback on the effectiveness of the activities.

How we want to achieve it:

Action to be taken: A1-A2
A1- Encourage IATA's IOSA and ISAGO registrations through safety promotion
A2- Encourage the implementation of ACI Airport Excellence (APEX) in Safety Programme

References: This is related to 2023-2025 GASP Goal 5 "Expand the use of industry Programmes and safety information sharing networks"

Component 1 — State Safety Oversight (SSO) System

GASP SEI-1 — Strategic collaboration with key aviation stakeholders to enhance safety in a coordinated manner.

Stakeholders: RASG-MID, States, industry, international organizations	
Action 1: Encourage IATA's IOSA and ISAGO registrations through safety promotion	
Owner:	IATA
Priority:	Medium
Completion Date:	2025
Status:	Ongoing
Action 2: Encourage the implementation of ACI Airport Excellence (APEX) in Safety Programme	
Owner:	ICAO and ACI
Priority:	medium
Completion Date:	2025
Status:	ongoing

EXPECTED OUTPUT

Deliverable(s)	**Timeline**
Increase the number of service providers participating in ICAO recognized industry assessment Programmes and maintain recurrent APEX Missions in the region:	2025

7.2.1 Goal 6: Ensure the Appropriate Infrastructure is available to Support Safe Operations

7.1.1.1 G6-SEI-01: Certification of International Aerodromes

Target/Metrics: The safety targets of this goal are indicated in the MID Region safety strategy at **Appendix C**.

Rationale:
Many International Airports are yet to be fully certified and many that are certified are facing challenges to apply the Standards and Recommended Practices (SARPs) as laid out in ICAO Annex 14-Aerodromes and the ICAO Manual on Certification of Aerodromes (Doc 9774).

What we want to achieve:
MID Region States to improve international aerodromes infrastructures and ensure continuous improvement.

How we monitor improvement:
The number of certified international airports. The RASG-MID, members States, and partners would provide feedback on the effectiveness of the activities.

How we want to achieve it: This SEI should be considered by States for inclusion in their NASPs.

Actions to be taken: A1-A2-A3-A4-A5-A6
A1- Support States on the implementation of the ICAO Annex 14 requirements to achieve compliance with regards to Aerodrome Design and Operations, through Workshops/Trainings
A2- Enhance capacity building for States CAAs and Airport operators related to aerodromes certification through Workshops/Training
A3 – Deployment of iPack on Aerodrome Re-Start
A4 - Support States in implementing aerodrome oversight/inspection mechanism through capacity building activities on Aerodrome Oversight
A5 – Conduct a Capacity Building Activity for Aerodrome Inspectors (Training Course + OJT)
A6 – Conduct a Wildlife Hazard Management Control capacity building Activities

References: ICAO SARPs and guidance documents and 2023-2025 GASP. This is related to 2023-2025 GASP Goal 6 “Ensure the appropriate infrastructure is available to support safe operations”

Component 1 — State Safety Oversight (SSO) System

- GASP SEI-1: Consistent implementation of ICAO SARPs at the Regional level.
- GASP SEI-3: Regional safety enhancement initiatives to support consistent coordination of Regional Programmes in establishing adequate safety oversight capabilities.
- GASP SEI-4: Strategic collaboration with key aviation stakeholders to enhance safety in a coordinated manner.

Stakeholders: RASG-MID, States, industry, International organizations
Action 1: Support States on the implementation of the ICAO Annex 14 requirements to achieve compliance with regards to Aerodrome Design and Operations, through capacity building activities
Owner: ICAO and ACI. **Priority:** High **Completion Date**: 2025 **Status**: Ongoing
Action 2: Enhance capacity building for States CAAs and Airport operators related to aerodromes certification through capacity building activities
Owner: ICAO and ACI **Priority:** High **Completion date**: 2025 **Status** ongoing
Action 3: Deployment of iPack on Aerodrome Re-Start
Owner: ICAO **Priority:** Medium **Completion Date:** 2025 **Status:** Ongoing
A4: Support States in implementing aerodrome oversight/inspection mechanism through capacity building activities on Aerodrome Oversight
Owner: ICAO and FAA **Priority:** Medium **Completion Date:** 2025 **Status:** New
A5 : Conduct a Capacity Building Activity for Aerodrome Inspectors (Training Course + OJT)
Owner: TBD **Priority:** Medium **Completion Date:** 2025 **Status:** New
A6: Conduct a Wildlife Hazard Management Control capacity building Activities
Owner: ICAO, ACAO, WBA

Priority:	Medium
Completion Date:	2025
Status:	New

EXPECTED OUTPUT

Deliverable(s)	**Timeline**
Increase the number of Certificated International Aerodromes	2025

7.1.5.2 G6-SEI-02: Establish Runway Safety Team (RST) at International Aerodromes

Target: The safety targets of this goal are indicated in the MID Region safety performance monitoring **at Appendix C.**

Rationale:
Many States have difficulties on the development of the Runway Safety Programme and the establishment of Runway Safety Teams (RSTs) at airports as an effective means to reduce runway related accidents and incidents.

What we want to achieve:
MID Region States' civil aviation authorities to establish an effective RSTs at their aerodromes which would significantly reduce the runway safety related risks.

How we monitor improvement:
Number of the RSTs established at international aerodromes and number of the RST missions conducted. The RASG-MID, members States, and partners will give feedback on the effectiveness of the activities.
How we want to achieve it: This SEI should be considered by States for inclusion in their NASPs.

Actions to be taken: **A1-A2**
A1- Conduct of assistance missions by the Runway Safety Go-Team (RST)
A2- Support States to implement the Global Reporting Format Methodology through capacity building activities: (A**ction addressed under G1-SEI-02: Runway Excursion**)

References: ICAO SARPs and guidance documents and 2023-2025 GASP. This is related to 2023-2025 GASP Goal 6 "Ensure the appropriate infrastructure is available to support safe operations".

Component 1 — State Safety Oversight (SSO) System

- GASP SEI-1: Consistent implementation of ICAO SARPs at the Regional level.
- GASP SEI-3: Regional safety enhancement initiatives to support consistent coordination of Regional Programmes in establishing adequate safety oversight capabilities.
- GASP SEI-4: Strategic collaboration with key aviation stakeholders to enhance safety in a coordinated manner.

Stakeholders: RASG-MID, States, industry, international organizations

Action 1: Conduct of assistance missions by the Runway Safety Go-Team (RST)

Owner:	ICAO, RSP (Runway Safety Programme Partners)
Priority:	High
Completion date:	2025
Status:	Ongoing

Action 2: Support States to implement the Global Reporting Format Methodology through capacity building. (Action addressed under G1-SEI-02: Runway Excursion)	
Owner:	ICAO, ACI and Aircraft Manufactures
Priority:	High
Completion Date:	2025
Status:	Ongoing

EXPECTED OUTPUT

Deliverable(s)	**Timeline**
Increase the number of establishment RST at international aerodromes	2025

7.2 Regional Operational Safety Risks

7.2.1 Goal 1: Achieve a continuous reduction in Operational Risks

7.2.1.1 G1-SEI-01: Aircraft upset in flight (LOC-I)

Target: The safety targets of this goal are indicated in the MID Region safety strategy at **Appendix C**.

Rationale:
Loss of control usually occurs because the aircraft enters a flight regime which is outside its normal envelope, usually, but not always, at a high rate, thereby introducing an element of surprise for the flight crew involved. Prevention of loss of control is a strategic priority. In addition, Aircraft upset or loss of control is the key risk area with the highest risk related to fatal accidents in CAT aeroplane operations having a maximum take-off weight above 5700 kg. It includes uncontrolled collisions with terrain, but also occurrences where the aircraft deviated from the intended flight path or intended aircraft flight parameters, regardless of whether the flight crew realized the deviation and whether it was possible to recover or not. It also includes the triggering of stall warning and envelope protections.
During 2017-2021 Aircraft upset or Loss of control contributed to one accident and counted for around 27% of fatalities. During the year 2018, the LOC-I occurred during En-route phase of flight.

What we want to achieve:
Increase safety by continuously assessing and improving risk controls to mitigate the risk of loss of control.

How we monitor improvement:
Continuous monitoring of safety issues identified in the MID Region annual safety report for CAT aeroplane above 5,700 kgs.

How we want to achieve it:
States should set up a regular dialogue with their national aircraft operators on flight data monitoring (FDM) Programmes, with the objectives of: promoting the operational safety benefits of FDM, fostering an open dialogue on FDM Programmes that takes place in the framework of just culture, encouraging operators to include and further develop FDM events relevant for the prevention of LOC-I, or other issues identified by the SSP.

States to include LOC-I in national SSPs: LOC-I should be addressed by the States on their SSPs and included in NASPs. This should include as a minimum agreeing a set of actions and measuring their effectiveness

Actions: **A1-A2-A3**
A1- Guidance material on flight crew proficiency
A2- Advisory Circular: Mode Awareness and Energy State Management Aspects of Flight Deck Automation
A3- Conduct Upset Recovery Workshops/Webinars

References:

- GASP 2023-2025 Goal 1 “Achieve a Continuous Reduction of Operational Safety Risks".
- GASP SEIs (States, Region, and industry) – Mitigate contributing factors to LOC-I accidents and incidents.

Stakeholders: RASG-MID, States, industry, international organizations/associations	
Action 1: Guidance material on flight crew proficiency	
Owner	IATA and Aircraft manufacturers
Priority:	Medium
Completion Date:	2025
Status:	Ongoing
Action 2: Advisory Circular: Mode Awareness and Energy State Management Aspects of Flight Deck Automation	
Owner:	IATA and Aircraft manufacturers. Supported by KSA
Priority:	High
Completion Date:	2025
Status:	ongoing
Action 3: Conduct Upset Recovery workshop/Webinar	
Owner:	ICAO, IATA, Industry.
Priority:	High
Completion Date:	2025
Status:	Ongoing

EXPECTED OUTPUT

Deliverable(s)	**Timeline**
Mitigate contributing factors to LOC-I accidents and incidents	2025

7.2.1.2 G1-SEI-02: Runway Safety- Runway Excursion

Target: The safety targets of this goal are indicated in the MID Region safety performance monitoring at **Appendix C**.

Rationale:
Runway excursion covers materialized runway excursions, both at high and low speed, and occurrences where the flight crew had difficulties in maintaining the directional control of the aircraft or of the braking action during landing, where the landing occurred long, fast, off-centred or hard, or where the aircraft had technical problems with the landing gear (not locked, not extended or collapsed) during landing. During 2017-2020, Runway Excursions and abnormal runway contact accidents and serious incidents mainly occurred in the landing phase of flights.

What we want to achieve:
Increase safety by continuously assessing and improving risk controls to mitigate the risk of RE.

How we monitor improvement:
Continuous monitoring of safety issues identified in the MID Region annual safety report for CAT aeroplane above 5,700 kgs.

How we want to achieve it:
States to set up a regular dialogue with their national aircraft operators on flight data monitoring (FDM) Programmes, with the objectives of: promoting the operational safety benefits of FDM, fostering an open dialogue on FDM Programmes that takes place in the framework of just culture, encouraging operators to include and further develop FDM events relevant for the prevention of REs.

States to include Runway Excursions in national SSPs: REs should be addressed by the States on their SSPs and included in NASPs in close cooperation with the aircraft operators, air traffic control, and airport operators. This should include as a minimum agreeing a set of actions and measuring their effectiveness.

Actions:	**A1-A2**
A1- Support States to implement the Global Reporting Format (GRF) Methodology through capacity building activities	
A2- MID Region Action Plan/Milestones on the Global Reporting Format (GRF) Implementation	

References:

- GASP 2023-2025 Goal 1 "Achieve a Continuous Reduction of Operational Safety Risks".
- GASP SEIs (States, Region, and industry) – Mitigate contributing factors to RE accidents and incidents.

Stakeholders: RASG-MID, MIDANPIRG, States, industry, international organizations/associations	
Action 1: Support States to implement the Global Reporting Format (GRF) Methodology through capacity building activities (Reference: G3-SEI-02)	
Owner:	ICAO, ACI, and Aircraft Manufactures
Priority:	Medium
Completion Date:	2025
Status:	Ongoing
Action 2: MID Region Action Plan/Milestones on the Global Reporting Format (GRF) Implementation	
Owner:	ICAO
Priority:	High
Completion Date:	2025
Status:	ongoing
EXPECTED OUTPUT	
Deliverable(s)	**Timeline**
Mitigate contributing factors to RE accidents and incidents	2025

7.2.1.3 G1-SEI-03: Runway Safety- Runway Incursion

Target: The safety targets of this goal are indicated in the MID Region safety performance monitoring at **Appendix C**.

Rationale:
Collision on runway covers collisions between an aircraft and another object (other aircraft, vehicles, etc.) or person that occur on a runway of an aerodrome or other predesignated landing area; it does not include collisions with birds or wildlife. While there were no fatal accident or accident involving MID States operators in the last years involving runway collision, the risk of the reported occurrence demonstrated to be very real.

What we want to achieve:
Increase safety by continuously assessing and improving risk controls to mitigate the risk of RI.

How we monitor improvement:
Continuous monitoring of safety issues identified in the MID Region annual safety report for CAT aeroplane above 5,700 kgs.

How we want to achieve it:
States to include Runway Incursions in national SSPs: RIs should be addressed by the States on their SSPs and included in NASPs in close cooperation with the aircraft operators, air traffic control, and airport operators. This should include as a minimum agreeing a set of actions and measuring their effectiveness.

Actions:	**A1**
A1- Conduct Capacity Building Activities on the Advanced Surface Movement Guidance and Control System (A-SMGCS) Implementation	

References:

- GASP 20232025 Goal 1 “Achieve a Continuous Reduction of Operational Safety Risks".
- GASP SEIs (States, Region, and industry) – Mitigate contributing factors to RI accidents and incidents.

Stakeholders: RASG-MID, MIDANPIRG, States, industry, international organizations	
Action 1: Conduct Capacity Building Activities on the Advanced Surface Movement Guidance and Control System (A-SMGCS) Implementation	
Owner:	ICAO
Priority:	High
Completion Date:	2025
Status:	New
EXPECTED OUTPUT	
Deliverable(s)	**Timeline**
Mitigate contributing factors to RI accidents and incidents	2025

7.2.1.4 G1-SEI-4: Controlled Flight into Terrain (CFIT)

7.2.1.4.1 G1-SEI-4A1- Controlled Flight into Terrain (CFIT)

Target: The safety targets of this goal are indicated in the MID Region safety performance monitoring at **Appendix C.**

Rationale:
It comprises those situations where the aircraft collides or nearly collides with terrain while the flight crew has control of the aircraft. It also includes occurrences, which are the direct precursors of a fatal outcome, such as descending below weather minima, undue clearance below radar minima, etc. There was no fatal accident involving MID States operators during this period. This key risk area has been raised by some MID States and in other parts of the world that make it an area of concern.

What we want to achieve:
Increase safety by continuously assessing and improving risk controls to mitigate the risk of CFIT.

How we monitor improvement:
Continuous monitoring of safety issues identified in the MID Region annual safety report for CAT aeroplane above 5,700 kgs.

How we want to achieve it:
States to set up a regular dialogue with their national aircraft operators on flight data monitoring (FDM) Programmes, with the objectives of: promoting the operational safety benefits of FDM, fostering an open dialogue on FDM Programmes that takes place in the framework of just culture, encouraging operators to include and further develop FDM events relevant for the prevention of CFIT or other issues identified by the SSP.

States to include CFITs in national SSPs: CFIT should be addressed by the States on their SSPs and included in NASPs. This should include as a minimum agreeing a set of actions and measuring their effectiveness.

Actions: A1-A2-A3
A1- Advisory Circular: Instrument Approach Procedures Using Continuous Descent Final Approach Techniques
A2- Guidance for designing RNP Approach
A3- Advisory Circular: Crew Resource Management Training Programme (CRM)

References:

- GASP 2023-2025 Goal 1 “Achieve a Continuous Reduction of Operational Safety Risks".
- GASP SEIs (States, Region, and industry) – Mitigate contributing factors to CFIT accidents and incidents.
-

Stakeholders: ICAO, RASG-MID, MIDANPIRG States, industry, international organizations	
Action 1: Advisory Circular: Guidance for Operators on Training Programme on the use of GPWS	
Owner:	IATA and Aircraft manufacturers
Priority:	Medium
Completion Date:	2025
Status:	ongoing
Action 2- Guidance for designing RNP Approach	
Owner:	ICAO AND MID-FPP
Priority:	Medium
Completion Date:	2025
Status:	New

Action 3: Advisory Circular: Crew Resource Management Training Programme (CRM)	
Owner:	IATA and Aircraft manufacturers
Priority:	High
Completion Date:	2025
Status:	ongoing

EXPECTED OUTPUT

Deliverable(s)	**Timeline**
Mitigate contributing factors to CFIT accidents and incidents	2025

7.2.1.4.2 G1-SEI-4A2- 5G Operation on Radio Altimeter

-

Stakeholders: ICAO, RASG-MID, MIDANPIRG, RASFG-MID States, industry, international organizations	
Action 1: Develop a guidance material on safeguarding measures to protect Radio Altimeter from potential harmful interference from 5G Operation	
Owner:	Radio Altimeter action group (RADALT AG)
Priority:	Medium
Completion Date:	2025
Status:	New
Action 2: Conduct a Webinar addressing the matter to raise awareness and promote the guidance material developed by the RADALT AG	
Owner:	ICAO and RADALT AG
Priority:	Medium
Completion Date:	2025
Status:	New

EXPECTED OUTPUT

Deliverable(s)	**Timeline**
Mitigate contributing factors to CFIT accidents and incidents including LOC-I	2025

7.2.1.5 G1-SEI-05: Airborne Conflict (Mid-Air Collisions)

7.2.1.5.1 G1-SEI-05A1: Loss of separation/TCAS RA

Target: The safety targets of this goal are indicated in the MID Region safety performance monitoring **at Appendix C.**

Rationale:
Airborne collision includes all occurrences involving actual or potential airborne collisions between aircraft, while both aircraft are airborne, and between aircraft and other airborne objects. This also includes all separation-related occurrences caused by either air traffic control (ATC) or cockpit crew, AIRPROX reports and genuine ACAS alerts. It includes direct precursors such as separation minima infringements, genuine TCAS resolution advisories or airspace infringements.

Although there have been no aeroplane mid-air collision accident in recent years within the MID States, this risk area has been raised by some MID States specifically in the context of the collision risk posed by military aircraft operating in Gulf area over the high seas which are not subject to any coordination with related FIRs for airborne operation. This is one specific safety issue that is a main priority in this key risk area.

States must have due regard for the safety of civil aircraft and must have established respective regulations for national State aircraft.
Some States had reported an increase in incidents involving close encounters between civil and military aircraft and more particularly an increase in non-cooperative international military traffic over the high-sea waters. The States could consider the following recommendations:

1. Fully apply the ICAO Manual on Civil-Military Cooperation in Air Traffic Management (Doc 10088);
2. Closely coordinate to develop, harmonize and publish operational requirements and instructions for State aircraft to ensure that 'due regard' for civil aircraft is always maintained;
3. Support the development and harmonization of civil/military coordination procedures for ATM at MID Region level and beyond if possible; and
4. Report relevant occurrences.

What we want to achieve:
Increase safety by continuously assessing and improving risk controls to mitigate the risk of MAC.

How we monitor improvement:
Continuous monitoring of safety issues identified in the MID Region Annual Safety Report for CAT aeroplane above 5,700 kgs.

How we want to achieve it:

States to include MACs in national SSPs: MACs should be addressed by the States on their SSPs and included NASPs. This should include as a minimum agreeing a set of actions and measuring their effectiveness.
Sates to reinforce the appropriate reactions of flight crew in response to an airborne collision avoidance system (ACAS) resolution advisories (RA), which would help to mitigate the risk of mid-air collisions by providing safety promotion material and clear messages to pilots on the need to follow the instructions of the ACAS in high-risk situations.

Actions: A1-A2
A1- Conduct workshop to implement Civil-Military cooperation
A2- Conduct seminar on raising awareness among stakeholders related to the potential risk of MAC over high seas

References:

- GASP 2023-2025 Goal 1 "Achieve a Continuous Reduction of Operational Safety Risks".
- GASP SEIs (States, Region, and industry) – Mitigate contributing factors to MAC accidents and incidents.
- ICAO Doc 10088 'Manual on Civil/Military Cooperation in Air Traffic Management'

Stakeholders: RASG-MID, MIDANPIRG, States, industry, international organizations

Action 1: Conduct workshop to implement Civil-Military cooperation

Owner: ICAO , IATA, and States

Priority: High

Completion Date: 2025

Status: Ongoing

Action 2: Conduct seminar on raising awareness among stakeholders related to the potential risk of MAC over high seas

Owner: ICAO and States

Priority: High

Completion Date: 2025

Status: Ongoing

EXPECTED OUTPUT

Deliverable(s)	**Timeline**
Mitigate contributing factors to MAC accidents and NMAC incidents	2025

7.2.1.5.2 G1-SEI-05A2: GNSS Interference

Stakeholders: RASG-MID, MIDANPIRG, States, industry, international organizations

Action 1: Raise awareness on the potential impact of GNSS interference on the aviation during the Civil-Mil Workshop.

Owner: ICAO and IATA

Priority: Medium

Completion Date: 2025

Status: New

Action 2: Urge States to follow the reporting procedure agreed by MIDANPIRG Conclusion 19/4 when needed.

Owner: ICAO

Priority: Medium

Completion Date: 2025

Status: New

EXPECTED OUTPUT

Deliverable(s)	**Timeline**
Mitigate contributing factors to MAC accidents and NMAC incidents	2025

7.2.1.5.3 G1-SEI-05A3: Ensure the Safe Operations of UAS (drones)

Target: The safety targets of this goal are indicated in the MID Region safety performance monitoring at

Appendix C.

Rationale:
The civilian use of UAS has markedly increased in recent years. Research and development into the civilian applications of unmanned aircraft (UA) is a dynamic and rapidly evolving area. Control and guidance systems are now available that enable these aircraft to perform a variety of tasks that were previously unachievable, unreasonably expensive, or involved too much personal risk. As a result, UA have an increasing presence in controlled and uncontrolled airspace. In addition, available evidence demonstrates an increase of drones coming into close proximity with manned aviation (both aeroplanes and helicopters) and the need to mitigate the associated risk. In connection with this, some States in the region developed their national regulations to ensure safe operations of UAS. However, there are currently some States in the region are unable to develop their national regulations to ensure safe operations of UAS. Therefore, guidance material to be developed to assist states' CAA personnel in the implementation and oversight of UAS operations and to mitigate the risk of the MAC.
When available, the guidance material would serve as an example for consideration by MID States to create, add, or amend, future or existing national UAS guidance material by the respective CAA.

What we want to achieve:
MID Region States' civil aviation authorities to develop national regulations to ensure safe operations of UAS and to create growth while maintaining a high and uniform level of safety.

How we monitor improvement:
Increase of number of states established national regulations to ensure safe operations of UAS. The RASG-MID, members States, and partners would give feedback on the effectiveness of the activities.

How we want to achieve it: This SEI should be considered by States for inclusion in their NASPs

Actions to be taken:	**A1-A2-A3**
A1- UAS iPack deployment	
A2- Organize symposium	
A3- Conduct survey on States UAS regulatory framework	

References: ICAO SARPs and guidance documents and 2023-2025 GASP. This is related to 2023-2025 GASP Goal 1. "Achieve a Continuous Reduction of Operational Safety Risks"

Component 1 — State Safety Oversight (SSO) System

- GASP SEI-1: Consistent implementation of ICAO SARPs at the Regional level.
- GASP SEI-3: Regional safety enhancement initiatives to support consistent coordination of Regional Programmes in establishing adequate safety oversight capabilities.

Stakeholders: RASG-MID, MIDANPIRG, States, industry, international organizations

Action 1: UAS iPack Deployment

Owner: ICAO

Priority: High

Completion date: 2025

Status: New

Action 2: Organize symposium related to drones (UAS)

Owner: ICAO, ACAO. Supported by FAA

Priority: Medium

Completion date: 2023

Status: Ongoing

Action 3- Conduct survey on States UAS regulatory framework

Owner: ICAO and States

Priority: Medium

Completion date: 2023

Status: New

EXPECTED OUTPUT

Deliverable(s)	**Timeline**
Ensure the safe operations of UAS to mitigate the risk of MID Air Collision (MAC)	2025

7.2.1.5.2 G1-SEI-05A2: GNSS Interference

Stakeholders: RASG-MID, MIDANPIRG, States, industry, international organizations

Action 1: Raise awareness on the potential impact of GNSS interference on the aviation during the Civil-Mil Workshop.

Owner: ICAO and IATA

Priority: Medium

Completion Date: 2025

Status: New

Action 2: Urge States to follow the reporting procedure agreed by MIDANPIRG Conclusion 19/4 when needed.

Owner: ICAO

Priority: Medium

Completion Date: 2025

Status: New

EXPECTED OUTPUT

Deliverable(s)	**Timeline**
Mitigate contributing factors to MAC accidents and NMAC incidents	2025

7.2.1.5.3- G1-SEI-05A3: Ensure the Safe Operations of UAS (drones)

Target: The safety targets of this goal are indicated in the MID Region safety performance monitoring at Appendix C.

Rationale:
The civilian use of UAS has markedly increased in recent years. Research and development into the civilian applications of unmanned aircraft (UA) is a dynamic and rapidly evolving area. Control and guidance systems are now available that enable these aircraft to perform a variety of tasks that were previously unachievable, unreasonably expensive, or involved too much personal risk. As a result, UA have an increasing presence in controlled and uncontrolled airspace. In addition, available evidence demonstrates an increase of drones coming into close proximity with manned aviation (both aeroplanes and helicopters) and the need to mitigate the associated risk. In connection with this, some States in the region developed their national regulations to ensure safe operations of UAS. However, there are currently some States in the region are unable to develop their national regulations to ensure safe operations of UAS. Therefore, guidance material to be developed to assist states' CAA personnel in the implementation and oversight of UAS operations and to mitigate the risk of the MAC.
When available, the guidance material would serve as an example for consideration by MID States to create, add, or amend, future or existing national UAS guidance material by the respective CAA.

What we want to achieve:
MID Region States' civil aviation authorities to develop national regulations to ensure safe operations of UAS and to create growth while maintaining a high and uniform level of safety.

How we monitor improvement:
Increase of number of states established national regulations to ensure safe operations of UAS. The RASG-MID, members States, and partners would give feedback on the effectiveness of the activities.

How we want to achieve it: This SEI should be considered by States for inclusion in their NASPs

Actions to be taken: **A1-A2-A3**
A1- UAS iPack deployment
A2- Organize symposium
A3- Conduct survey on States UAS regulatory framework

References: ICAO SARPs and guidance documents and 2023-2025 GASP. This is related to 2023-2025 GASP Goal 1. "Achieve a Continuous Reduction of Operational Safety Risks"

Component 1 — State Safety Oversight (SSO) System

- GASP SEI-1: Consistent implementation of ICAO SARPs at the Regional level.
- GASP SEI-3: Regional safety enhancement initiatives to support consistent coordination of Regional Programmes in establishing adequate safety oversight capabilities.

Stakeholders: RASG-MID, MIDANPIRG, States, industry, international organizations

Action 1: UAS iPack Deployment

Owner: ICAO

Priority: High

Completion date: 2025

Status: New

Action 2: Organize symposium related to drones (UAS)

Owner:	ICAO, ACAO. Supported by FAA
Priority:	Medium
Completion date:	2023
Status:	Ongoing

Action 3- Conduct survey on States UAS regulatory framework

Owner:	ICAO and States
Priority:	Medium
Completion date:	2023
Status:	New

EXPECTED OUTPUT

Deliverable(s)	**Timeline**
Ensure the safe operations of UAS to mitigate the risk of MID Air Collision (MAC)	2025

7.2.1.5.4 G1-SEI-05A4: Expansion of ATS route Networks

Stakeholders: RASG-MID, MIDANPIRG, States, industry, international organizations

Action 1: Conduct gap analysis to identify current ATS route networks gaps	
Owner:	ICAO and States
Priority:	Medium
Completion Date:	2025
Status:	New
Action 2: Establishment of parallel unidirectional ATS routes (De-confliction)	
Owner:	ICAO and States
Priority:	Medium
Completion Date:	2025
Status:	New

EXPECTED OUTPUT	
Deliverable(s)	**Timeline**
Mitigate contributing factors to MAC accidents and NMAC incidents	2025

Appendix A- SEIG TORs

SAFETY ENHANCEMENT INITIATIVE GROUP

(SEIG)

TERMS OF REFERENCE

1. PURPOSE OF THE SEIG TO:

1.1 Support the RASG-MID in the development/update of the MID Regional Aviation Safety Plan (MID-RASP) and the monitoring of the implementation of Safety Enhancement Initiatives (SEIs) related to identified safety issues.

1.2 Assist in the development, implementation and review of SEIs to reduce aviation safety risks. These SEIs could be established based on the analysis of regional data, based on ICAO initiatives or the initiatives of other relevant organizations or based on the risks and issues identified through the USOAP audits process.

1.3 Recommend safety mitigations to the RASG-MID related to identified safety issues which would reduce aviation risks.

1.4 In order to meet its Terms of Reference, the SEIG shall:

a. follow-up the updates of the Global Aviation Safety Plan (GASP) and support the development, update and implementation of the MID Regional Aviation Safety Plan (MID-RASP) at the regional level and provide feedback to the RASG-MID;

b. identify and develop the SEIs, which are aligned with the regional priorities and targets, for implementation within the MID Region. The focus of these SEIs is to effectively and economically mitigate the safety risks identified by the ASRG;

c. identify difficulties, challenges and deficiencies related to the implementation of each SEI and propose mitigation measures;

d. identify assistance Programmes such as, but not limited to, workshops, seminars and capacity building activities to improve the level of implementation of the approved SEIs by the RASG-MID;

e. share expertise and experience and provide recommended actions for each SEI, in a prioritized manner based on best practices;

f. monitor the status of achieving related safety objectives and targets included in the MID Region Safety Strategy;

g. identify areas of concern to aviation safety that may be unique to the region, and develop data and mitigations to address those concerns;

h. work closely with States and stakeholders to ensure that SEIs and mitigation measures are implemented through a coordinated effort;

i. propose input to the RASG-MID for the development of the RASG-MID Annual Work Programme; and

j. Coordinate with relevant RASG-MID, MIDANPIRG and MID-RASFG subsidiary bodies issues with common interest.

2. COMPOSITION

The SEIG is composed of Members designated by the MID States and Partners.

3. ROLES AND RESPONSIBILITIES

- SEIG Chairpersons: – Coordinate SEIG activities and provide overall guidance and leadership;

- ICAO: Support; and

- Partners: collaborate in the development of materials as requested by the SEIG, and provide technical expertise and support, as required.

4. MEETINGS ARRANGEMENTS

- The Chairperson, in close co-operation with the Secretary, shall make all necessary arrangements for the most efficient working of the SEIG. The SEIG shall at all times conduct its activities in the most efficient manner possible with a minimum of formality and paper work (paperless meetings). Permanent contact shall be maintained between the Chairperson, Secretary and Members of the SEIG to advance the work. Best advantage should be taken of modern communications facilities, particularly video-conferencing (Virtual Meetings) and e-mails.

- Face-to-face meetings will be conducted when it is necessary to do so.

Appendix B- Identified safety issues as indicated in the 11th MID ASR

Potential Accident Outcome							
Safety Issues	CFIT	LOC-I	MAC	GCOL	RE/ARC	Injury Damage inflight	Injury Damage on Ground
Monitoring of flight paremeters and automation modes	x	x			x		
Adverse Convective weather	x	x			x	x	
Un-stabilized Approach		x			x		x
Flight planning and preparation	x	x	x	x	x		
Crew Resource Management	x	x	x	x	x		
Handling of technical failure	x	x		x	x		x
Handling and execution of GOA	x	x			x		
Loss of separation in flight/ and/or airspace/TCAS RA			x			x	
Experience, training and competence of Flight Crews	x	x	x		x		
Deconfliction between IFR and VFR traffic			x				
Inappropriate flight control inputs		x			x		
Fatigue	x	x					
Entry of aircraft performance data		x					
Contained engine Failure/Power Plant Malfunctions		x			x	x	
Birdstrike/Engine Bird ingestion		x			x		
Fire/Smoke-non impact		x				x	
Wake Vortex		x				x	
Deviation from pitch or roll attitude	x	x			x		
Security Risks with impact on Safety		x					
Tail/Cross wind/Winds hear		x			x		x

Potential Accident Outcome							
Safety Issues	**CFIT**	**LOC-I**	**MAC**	**GCOL**	**RE/ARC**	**Injury Damage inflight**	**Injury Damage on Ground**
Runway Incursion				x	x		x
Maintenance events	x	x				x	
Contaminated runway/Poor braking action					x		x
Clear Air Turbulence (CAT) and Montain Waves		x				x	

Appendix C-MID Region Safety Performance Monitoring (SPM)

Aspirational Goal: Zero Fatality by 2030

Goal 1: Achieve a Continuous Reduction of Operational Safety Risks

Safety Indicator	Safety Target	Timeline
Number of accidents per million departures	Regional average rate of accidents to be in line with the global average rate	2025
Number of fatal accidents per million departures	Regional average rate of fatal accidents to be in line with the global average rate	2025
Number of fatalities per million departures	Number of fatalities per billion passengers carried (fatality rate) to be in line with the global average rate	2025
Number of Runway Excursion accidents per million departures	Regional average rate of Runway Excursion accidents to be below the global average rate	2025
Number of Runway Incursion accidents per million departures	Regional average rate of Runway Incursion accidents to be below the global average rate	2025
Number of LOC-I related accidents per million departures	Regional average rate of LOC-I related accidents to be below the global rate	2025
Number of CFIT related accidents per million departures	Regional average rate of CFIT related accidents to be below the global rate	2025
Number of Mid Air Collision (accidents)	Regional average Mid Air Collision accident	2025

Goal 2: Strengthen States' Safety Oversight Capabilities

Safety Indicator	Safety Target	Timeline
USOAP-CMA Effective Implementation (EI) results: a. Regional average EI b. Number of audited States with an overall EI over 60% c. Regional average EI by area d. Regional average EI by CE e. Regional average EI of PPQs	a. Regional average EI to be above 80% : b. All MID audited States to be above 60% EI c. Regional average EI for each area to be above 70% d. Regional average EI for each CE to be above 70% e. Regional average EI PPQs above 75% :	a. 2023-2025 b. 2023-2025 c. 2023-2025 d. 2023-2025 e. 2023-2025

Goal 3: Implement effective State safety Programmes (SSPs)

Safety Indicator	Safety Target	Timeline
Regional Average SSP Foundation	85%	2023- 2025
Number of States having an SSP that is present*	At least 4 States	2023- 2025
Number of States that have developed and published a national aviation safety plan (NASP)	All States	2023- 2025
Number of States that require applicable service providers under their authority to implement an SMS	All States	2023- 2025

*: The term "present" is based on the maturity levels established in the ICAO SSP Implementation Assessment (SSPIA).

Goal 4: Increase Collaboration at the Regional Level

Safety Indicator	Safety Target	Timeline
Percentage of safety enhancement initiatives (SEIs) completed	80%	2023-2025
Number of States seeking/receiving assistance, to strengthen their Safety Oversight capabilities through NCLB MID Strategy/Technical assistance	States with SSC as a first priority All States as a second priority having EI below 80%	2023-2025
Number of States seeking assistance to facilitate SSP & NASP implementation through NCLB MID Strategy/Technical assistance	All States	2023-2025
Number of States sharing safety information including operational safety risks and emerging issues to support the development of MID ASR	All States	2023-2025

Goal 5: Expand the use of Industry Programmes and safety information sharing networks

Safety Indicator	Safety Target	Timeline
Use of the IATA Operational Safety Audit (IOSA), to complement safety oversight activities.	a. Maintain at least 60% of eligible MID airlines to be certified IATA-IOSA at all times. b. All MID States with an EI of at least 60% use the IATA Operational Safety Audit (IOSA) to complement their safety oversight activities.	a. 2023-2025 b. 2023- 2025
Use of the IATA Safety Audit for Ground Operations (ISAGO) certification, as a percentage of all Ground Handling service providers	The IATA Ground Handling Manual (IGOM) endorsed as a reference for ground handling safety standards by all MID States. Pursue at least 25% increase in ISAGO registration	2023-2025
Coordinate the ACI Airport Excellence (APEX) in Safety Programme	At least 2 ACI APEX in Safety to be conducted for 2 Airports of the Region per year	2023-2025
Number of States that have established Safety data collection and processing system (SDCPS)	At least 12 States	2023-2025
Number of MID RASP developed in consultation with industry	MID-RASP 2023-2025 by 2022 Endorsement 2023.	2023

Goal 6: Ensure Appropriate Infrastructure is available to Support Safe Operations

Safety Indicator	Safety Target	Timeline
Percentage of Certified International Aerodromes*	65%	2023-2025
Percentage of Runway Safety Team (RST) effectively implemented at International Aerodromes*	80%	2023-2025
Percentage of Global reporting Format (GRF) Plans implemented for International Aerodromes*	75%	2023-2025

*: International Aerodromes included in the MID ANP (Aerodromes Operations: AOP Table I-I)

Appendix D: Safety Actions- Consolidated List of SEIs with their respective Actions for follow up- Draft

SEI Code	SEI Name	Actions	Owner(s)	Status/Progress	Completion Date
Regional Operational Safety Risks					
Goal 1: Achieve a Continuous Reduction in Operational Risks					
G1-SEI-01:	Aircraft Upset in Flight (LOC-I)	**A1-** Guidance material on flight crew proficiency	IATA and Aircraft manufacturers/industry	To be supported by Airbus	2025
		A2- Advisory Circular: Mode Awareness and Energy State Management Aspects of Flight Deck Automation	IATA and Aircraft manufacturers/industry.	To be supported by Airbus	2025
		A3- Conduct Upset Recovery capacity building activities	UPRT Workshop. Airbus, ICAO, State (TBD). 2023		2025
G1-SEI-02:	Runway Safety- Runway Excursion	**A1-** Support States to implement the Global Reporting Format (GRF) Methodology through capacity building activities.	ICAO and ACI		2025
		A2- MID Region Action Plan/Milestones on the Global Reporting Format (GRF) Implementation.	ICAO		2025
G1-SEI-03:	Runway Safety- Runway Incursion	**A1-** Conduct Capacity Building Activities on the Advanced Surface Movement Guidance and Control System (A-SMGCS) Implementation	ICAO	To be supported by Euro-Control, FAA	2023

G1-SEI-04A1:	Controlled Flight into Terrain (CFIT)	**A1-** Advisory Circular: Instrument Approach Procedures Using Continuous Descent Final Approach Techniques.	IATA and Aircraft manufacturers		2025
		A2- Guidance for designing RNP Approach	ICAO and MID FPP		2025
		A3- Advisory Circular: Crew Resource Management Training Programme (CRM)	IATA and Aircraft manufacturers		2025
G1-SEI-04A2	5G Operations on Radar Altimeter	**A1-** Develop a guidance material on safeguarding measures to protect Radio Altimeter from potential harmful interference from 5G Operation	Radio Altimeter Action Group (RADALT AG)	To be supported by Boeing	2025
		A2- Conduct a Webinar addressing the matter to raise awareness and promote the guidance material developed by the RADALT AG	ICAO and RADALT AG	To be supported by Airbus & Boeing	2025
G1-SEI-05B1:	MAC- Loss of Separation	**A1-** Conduct workshop to implement Civil-Military cooperation	ICAO, States, and International Organizations		2025
		A2- Conduct seminar on raising awareness among stakeholders related to the potential risk of MAC over high seas	ICAO, States, and international organizations		2025
G1-SEI-05B2:	GNSS Interference	**A1**: Raise awareness on the potential impact of GNSS interference on the aviation during the Civil-Mil Workshop	ICAO and IATA		2025
		A2- Urge States to follow the reporting procedure agreed by MIDANPIRG Conclusion 19/4 when needed	ICAO		2025
G1-SEI-05B3:	Ensure the Safe Operations of UAS (Drones)	**A1**- UAS iPack deployment	ICAO and States		2025
		A2- Organize symposium on Drones related subjects	ICAO and ACAO. Supported FAA, Boeing		2023

		A3- Conduct survey on States UAS regulatory framework	ICAO and States		2025
G1-SEI-05B4:	Expansion of ATS route Networks	**A1-** Conduct gap analysis to identify current ATS route networks gaps	ICAO and States		2025
		A2- Establishment of parallel unidirectional ATS routes (De-confliction)	ICAO and States		2025
Organizational Challenges/issues					
Goal 2: Strengthen States' Safety Oversight Capabilities					
G2-SEI-01:	Strengthening of States' Safety Oversight Capabilities	**A1-** Conduct Capacity Building Activities to promote effective implementation of SARPs	ICAO, States, International Organizations, and Industry	"Inspectors training" to be Supported by Airbus. 2023	2025
		A2- Conduct technical assistance and NCLB missions to States , with focus on states with EI<80% as well as ANS, AIG, AGA, and OPS areas	ICAO and States		2025
		A3- Develop and implement a specific NCLB plan of actions.	ICAO, States, International Organizations, and Industry		2025
		A4 - Conduct a Capacity Building Activity for Aerodrome Inspectors (Training Course on Aerodrome Inspection) **(Action addressed under G6-SEI-01 A5)**	States (Qatar) and ICAO		2025
		A5- Develop guidance material to assist MID Region States in the issuance of exemptions related to temporary deviations from standards	Qatar supported by Iran, Sudan, UAE, and IATA		2025
		A6- Develop guidance material to support States for the conduct of	Qatar supported by Iran, Jordan, Saudi Arabia, Sudan, and UAE		2025

		remote surveillance			
G2-SEI-03:	Sharing of Safety Recommendations related to Accidents and Serious Incidents	**A1-** Establishing a Platform for Sharing Safety Recommendations for MENA ARCM Member States	ICAO, ACAO, and MENA ARCM Member States	On-hold	2025
G2-SEI-04:	Enhance State Oversight on Dangerous Goods	**A1-** Dangerous Goods (DG) capacity building activities including Lithium batteries fire/smoke risk in cabin	ICAO, States, International Organizations, And Industry		2025
		A2- Develop guidance material on carriage and transport of Lithium batteries	IATA, States, International Organizations, And Industry		2025
G2-SEI-05:	Human factors and Competence of Personnel	**A1-** Advisory Circular: Crew Resource Management Training Programme (CRM). **(Action addressed under G1-SEI-04: CFIT).**	IATA and Industry		2025
		A2- Organize Crew Resource Management Capacity building activities	ICAO &Jordan, States, International Organizations, and Industry	CBTA and EBT to be supported by Airbus, FAA	2025
		A3- Organize Team Resource Management Capacity building activities	ICAO & Jordan States, International Organizations, and Industry	FAA	2025
		A4- Conduct Fatigue Risk Management and Mental Health Best Practices Capacity building activities	ICAO & Jordan States, International Organizations, and Industry	To be supported by Airbus	20225

G2-SEI-06:	Impact of security on safety	**A1-** Organize seminar/Symposium/Workshop to exchange experiences and good practices on assessing the risks and sharing of information related to the overflying of conflict zones in coordination with RASFG-MID and MIDANPIRG.	ICAO		2025
		A2- Risk management on conflict zone workshop	ICAO/ACAO		2023
G2-SEI-07:	Managing cybersecurity risks	**A1-** Develop a Regional Action Plan to bridge the gap between ICAO Cyber Security Action plan and the implementation level of Cyber Resilience in the MID Region	ANS Cyber SeC Action Group		2025
		A2- Conduct activities on Cyber Security and Resilience- (Jointly ANS and AVSEC)	ICAO	To be supported by Boeing	2025
		A3- Develop a MID Region Cybersecurity Action Plan	Cybersecurity Security Ad-hoc Group		2025
G2-SEI-08:	Impact of COVID-19 pandemic- Safe return to operations	**A1-** Continued support to the aviation industry through MID-RPTF meetings/Activities, as needed	ICAO, States, International Organizations, and Industry		2025
		A2- Sharing of guidance material/best practices	ICAO, States, International Organizations, and Industry	To be support by Airbus	2025

Goal 3: Implementation of Effective States Safety Programme (SSP)

G3-SEI-01:	Implement an effective Safety Management	**A1-** Conduct ICAO SSP/SMS Capacity building activities	SSP workshops for States. 2023 SMS & Flight Data analysis workshop for airlines. Airbus and ICAO. 2023		2025
		A2- Conduct Technical Assistance missions by SMIT	ICAO and States		2025
G3-SEI-02:	NASP Development & Implementation	**A1-** Conduct NASPs workshops & technical assistance missions	ICAO. 2023		2025
		A2- NASP iPacks deployment	ICAO		2025
Goal 4: Increase Collaboration at the Regional Level					
G4-SEI-01:	Development and Implementation of MID-RASP	**A1-** Development and Implementation of MID-RASP 2023-2025 Edition	SEIG		2023
G4-SEI-02:	Enhance collaboration between States, international organizations, and industry	**A1-** Develop and agree on joint work activities through MID-RCM meetings	ICAO, States, Regional Groups, International Organizations, and Industry		2025
		A2- Support the establishment of MENA RSOO and its activities	ICAO and States		2025
Goal 5: Expand the Use of Industry Programmes and Safety Information Sharing Networks					
G5-SEI-01:	Promote the Use of industry Programmes	**A1-** Encourage IATA's IOSA and ISAGO registrations through safety promotion	IATA		2025
		A2- Encourage the implementation of ACI Airport Excellence (APEX) in Safety Programme	ICAO and ACI		2025
Goal 6: Ensure the Appropriate Infrastructure is available to Support Safe Operations					

G6-SEI-01:	Certification of International Aerodromes	**A1-** Support States on the implementation of the ICAO Annex 14 requirements to achieve compliance with regards to Aerodrome Design and Operations, through capacity building activities.	ICAO and ACI		2025
		A2- Enhance capacity building for States CAAs and Airport operators related to Aerodromes Certification through capacity building activities.	ICAO and ACI		2025
		A3 - Deployment of iPack on Aerodrome Re-Start	ICAO and States		2025
		A4 - Support States in implementing aerodrome oversight/inspection mechanism through capacity building activities on Aerodrome Oversight	ICAO	Supported by FAA	2025
		A5 – Conduct a Capacity Building Activity for Aerodrome Inspectors (Training Course on Aerodrome Inspection)	States (Qatar) and ICAO		2025
		A6 – Conduct a Wildlife Hazard Management Control capacity building Activities	ICAO, ACAO, WBA	Supported by International Organizations	2025
G6-SEI-02:	Establish Runway Safety Team (RST) at International Aerodromes	**A1-** Conduct Runway Safety Go-Team (RST) assistance missions	ICAO. Supported RSP (Runway Safety Programme Partners)		2025
		A2: Support States to implement the Global Reporting Format Methodology through capacity building activities**: (Action addressed under G1-SEI-02: Runway Excursion).**	ICAO and ACI		2025

Appendix E:

SEIs identified in MID-RASP may be considered by States for inclusion in their NASPs, as appropriate

SEI Code	SEI name
Organizational Challenges	
Goal 2: Strengthen States' Safety Oversight Capabilities	
G2-SEI-01:	Strengthening of States' Safety Oversight Capabilities
G2-SEI-04:	Enhance State Oversight on Dangerous Goods
G2-SEI-05:	Human factors and Competence of Personnel
G2-SEI-06:	Impact of security on safety
G2-SEI-07:	Managing cybersecurity risks
G2-SEI-08:	Impact of COVID-19 pandemic- Safe return to operations
Goal 3: Implementation of Effective States Safety Programme (SSP)	
G3-SEI-01:	Implement safety management
G3-SEI-02:	NASP Development & Implementation
Goal 6: Ensure the Appropriate Infrastructure is available to Support Safe Operations	
G6-SEI-01:	Certification of International Aerodromes
G6-SEI-02:	Establish Runway Safety Team (RST) at International Aerodromes
Regional Operational Safety Risks	
Goal 1: Achieve a continuous reduction in Operational Risks	
G1-SEI-01:	Aircraft upset in flight (LOC-I)
G1-SEI-02:	Runway Excursion (RE)
G1-SEI-03:	Runway Incursion (RI)
G1-SEI-4A1:	Controlled Flight Into Terrain (CFIT)
G1-SEI-04A2:	5G operations on Radar Altimeter
G1-SEI-05A1:	MAC- Loss of separation/TCAS RA
G1-SEI-05A2:	GNSS Interference
G1-SEI-05A3:	Ensure the Safe Operations of UAS (drones)

Appendix F: Definitions

Accident Investigation Authority. The authority designated by a State as responsible for aircraft accident and incident investigations within the context of Annex 13.

Audit Area. One of eight audit areas pertaining to the Universal Safety Oversight Audit Programme (USOAP), i.e. primary aviation legislation and civil aviation regulations (LEG), civil aviation organization (ORG); personnel licensing and training (PEL); aircraft operations (OPS); airworthiness of aircraft (AIR); aircraft accident and incident investigation (AIG); air navigation services (ANS); and aerodromes and ground aids (AGA).

Contributing Factors. Actions, omissions, events, conditions, or a combination thereof, which, if eliminated, avoided or absent, would have reduced the probability of the accident or incident occurring, or mitigated the severity of the consequences of the accident or incident. the identification of contributing factors does not imply the assignment of fault or the determination of administrative, civil or criminal liability.

Critical Elements (CEs). The critical elements of a safety oversight system encompass the whole spectrum of civil aviation activities. They are the building blocks upon which an effective safety oversight system is based. The level of effective implementation of the CEs is an indication of a State's capability for safety oversight.

Effective Implementation (EI). A measure of the State's safety oversight capability, calculated for each critical element, each audit area or as an overall measure. The EI is expressed as a percentage.

Operator. The person, organization or enterprise engaged in or offering to engage in an aircraft operation.

Safety. The state in which risks associated with aviation activities, related to, or in direct support of the operation of aircraft, are reduced and controlled to an acceptable level.

Safety Audit. A USOAP CMA audit that a State requests and pays for (on a cost recovery basis). The State determines the scope and date of a safety audit. Also see definition of audit.

Safety Data. A defined set of facts or set of safety values collected from various aviation related sources, which is used to maintain or improve safety.

Note: such safety data is collected from proactive or reactive safety-related activities, including but not limited to:

a. accident or incident investigations;
b. safety reporting;
c. continuing airworthiness reporting;
d. operational performance monitoring;
e. inspections, audits, surveys; or
f. safety studies and reviews.

Safety Enhancement: initiative (SEI). One or more actions to eliminate or mitigate risks associated with contributing factors to a safety occurrence or to address an identified safety deficiency. There are two main types of SEIs to address safety risks and issues at the Regional level.

Safety Information. Safety data processed, organized or analyzed in a given context so as to make it useful for safety management purposes.

Safety Management System (SMS). A systematic approach to managing safety, including the necessary organizational structures, accountability, responsibilities, policies and procedures.

Safety Oversight. A function performed by a State to ensure that individuals and organizations performing an aviation activity comply with safety-related national laws and regulations.

Safety Performance. A State or a service provider's safety achievement as defined by its safety performance targets and safety performance indicators.

Safety Performance Indicator. A data-based parameter used for monitoring and assessing safety performance.

Safety Performance Target. The State or service provider's planned or intended target for a safety performance indicator over a given period that aligns with the safety objectives.

Safety Risk. The predicted probability and severity of the consequences or outcomes of a hazard.

Significant Safety Concern (SSC). Occurs when the State allows the holder of an authorization or approval to exercise the privileges attached to it, although the minimum requirements established by the State and by the Standards set forth in the Annexes to the Convention are not met, resulting in an immediate safety risk to International Civil Aviation.

State Safety Programme (SSP). An integrated set of regulations and activities aimed at improving safety.

Appendix G: Abbreviations and Acronyms

AIIA:	Accident and Incident Investigation Authority
ACI:	Airports Council International
ADRM:	Aerodrome
AGA:	Aerodrome and Ground Aids
AIG:	Aircraft Accident and Incident Investigation
ALAR:	Approach and Landing Reduction
ANS:	Air Navigation Services
ANSP:	Air Navigation Service Provider
APV:	Approaches with Vertical Guidance
ARC:	Abnormal Runway Contact
ASBU:	Aviation System Block Upgrade
ASR:	Annual Safety Report
ATM:	Air Traffic Management
ATS:	Air Traffic Services
BIRD:	Bird Strike
CAA:	Civil Aviation Authority
CASI:	Civil Aviation Safety Inspectors
CAST:	Commercial Aviation Safety Team
CE:	Critical Element
CFIT:	Controlled Flight into Terrain
CICTT:	CAST/ICAO Common Taxonomy Team
CMA:	Continuous Monitoring Approach
CRM:	Crew Resource Management
CAST:	US Commercial Aviation Safety Team
DGCA:	Conference of Directors General of Civil Aviation
EI:	Effective Implementation
FDAP:	Flight Data Analysis Programme
FIR:	Flight Information Region
F-NI:	Fire/ Smoke (Non-Impact)
GADSS:	Global Aeronautical Distress and Safety System
GANP:	Global Air Navigation Plan
GASeP:	Global Aviation Security Plan
GASOS:	Global Aviation Safety Oversight System
GASP:	Global Aviation Safety Plan
GASP-SG:	Global Aviation Safety Plan Study Group
GEN:	General Aspects
GPWS:	Ground Proximity Warning System
G- HRC:	Global-High Risk Categories of Occurrences
IATA:	International Air Transport Association
ICAO:	International Civil Aviation Organization
IFALPA:	International Federation of Airline Pilots' Associations
IOSA:	IATA Operational Safety Audit
ISAGO:	IATA Safety Audit for Ground Operations
iSTARS:	Integrated Safety Trend Analysis and Reporting System
LOC-I:	Loss of Control In-flight
MAC:	AIRPROX/ TCAS alert/ loss of separation/ near miss collisions/ mid-air collisions
MTOW:	Maximum Take-Off Weight

NASP:	National Aviation Safety Plan
NCLB:	No Country Left Behind
NDP:	National Development Plan
OAG:	Official Airline Guide
OPS:	Flight Operations (USOAP Audit Area)
ORG:	Civil Aviation Organization (USOAP Audit Area)
PDCA:	Plan-Do-Check-Act methodology
RAMP:	Ground Handling
RASG:	Regional Aviation Safety Group
RASP:	Regional Aviation Safety Plan
RE:	Runway Excursion (departure or landing)
RI:	Runway Incursion
RS:	Runway Safety
RSOO:	Regional Safety Oversight Organization
RST:	Runway Safety Team
RTC:	ICAO Regional Training Centre of Excellence
SAFE:	ICAO Safety Fund
SARPs:	Standards and Recommended Practices
SCF-NP:	System/Component Failure or Malfunction – Non-power plant
SCF-PP:	System/Component Failure or Malfunction - Power plant
SDCPS:	Safety Data Collection and Processing System
SEI:	Safety Enhancement Initiatives
SISG:	ICAO's Safety Indicator Study Group
SMS:	Safety Management Systems
SPI:	Safety Performance Indicator
SSC:	Significant Safety Concern
SSO:	State Safety Oversight
SSP:	State Safety Programme
SRP:	Safety Reporting and Programme
TCAS:	Traffic Collision and Avoidance System
TOR:	Terms of Reference
UAS:	Unmanned Aircraft Systems
UNK:	Unknown or Undetermined
UPRT:	Upset Prevention and Recovery Training
USOAP:	Universal Safety Oversight Audit Programme
USOS:	Undershoot/ Overshoot

-END-

CREDITS

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ICAO MID

APPENDIX G

State SSP information Collection

State name:

State Comments	
SSP Establishment: 1. State formally designated the authority in charge of coordinating the implementation and maintenance of the SSP 2. State established SSP coordination group/s at the State level, chaired by the designated authority in charge of coordinating the SSP implementation and maintenance. **3.** State published high-level national strategic document (e.g. SSP main document) that lays out the State's methodology, practices and activities to support the implementation of its SSP, including all SSP components.	
SMS Acceptance: 1. State has promulgated regulatory requirements to implement SMS acceptable to the State, in accordance with ICAO provisions 2. Number of service providers (specify service providers) under CAA required to develop and implement an SMS. **Service Providers:** *a. Approved training organization*	

	State Comments
b. Certified operator of aeroplanes or helicopters authorized to conduct international commercial air transport *c. Approved maintenance organization* *d. Organization responsible for the manufacture of aircraft, engines or propellers* *e. ATS provider* *f. Operator of a certified aerodrome* **3.** Number of service providers (specify service providers) developed and implemented SMS and/or with SMS Acceptance. **Service Providers:** *a. Approved training organization* *b. Certified operator of aeroplanes or helicopters authorized to conduct international commercial air transport* *c. Approved maintenance organization* *d. Organization responsible for the manufacture of aircraft, engines or propellers* *e. ATS provider* f. *Operator of a certified aerodrome*	
Safety Data Collection and processing System (SDCPS) Establishment: 1. State established the SDCPS to support safety data analysis at the State level 2. State established a State-level Mandatory & voluntary reporting systems 3. State established Legislative provisions to protect safety data, safety information and related sources.	

State Comments	
State established and developed SSP Documentation: 1. SSP implementation plan 2. State safety Policy & objectives 3. State safety performance indicators 4. SSP Coordination Group meeting structure 5. Process involved in developing the NASP 6. State safety risk management methodology /Framework 7. The processes and procedures for oversight of SMS 8. The means for safety promotion both internally and externally **9.** SSP related training programme	
State challenges to develop and implement SSP 1. Regulatory 2. Technical 3. Resources including Financial 4. Training and Others	

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