INTERNATIONAL CIVIL AVIATION ORGANIZATION

AFRICA-INDIAN OCEAN REGIONAL AVIATION SAFETY PLAN

(AFI-RASP)

AFI-RASP First Edition 2023-2025 - November, 2023

RECORD OF AMENDMENTS AND CORRIGENDA

AMENDMENTS				
No.	Date	Title	Paragraph and Page Nº	Entered by
Original	November 2023	First Edition, First Issue		

CORRIGENDA		
No.	Date	Entered by

EXECUTIVE SUMMARY

Safety is a top priority in aviation. 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. A safe, resilient and sustainable aviation system contributes to the economic development of States and their industries. The GASP promotes the effective implementation of a State safety programme, including a State's safety oversight system, a risk-based approach to managing safety as well as a coordinated approach to collaboration between States, regions (i.e. a group of States and/or entities working together to enhance safety within a geographic area) and industry. It provides a framework in which regional and national aviation safety plans (RASP and NASP) are developed and implemented.

The Africa-Indian Ocean Regional Aviation Safety Plan (AFI-RASP) 2023 – 2025 Edition recognises and supports the 2023-2025 edition of the GASP by adopting the six goals and the five global high-risk categories of occurrences (G-HRCs), in addition to the goals and high-risk categories of occurrences that are peculiar to the region as regional high-risk categories of occurrences (R-HRCs). The region recognizes the need for its safety strategy to evolve and ensure its sustained effectiveness and efficiency in the changing regulatory, economic and technical environments.

This edition also addresses the impact of global aviation disruption events on aviation safety and the need for resilience. Detailed guidance related to the management of the COVID-19 pandemic, aviation restart and recovery, and building resilience can be found on the ICAO website at https://www.icao.int/covid/cart/Pages/default.aspx. Disruption events are not covered in-depth in the AFI-RASP, due to their rapid changing nature and the pre-set update cycle of the plan, which happens once every three years.

The vision of the AFI-RASP 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 regional aviation safety performance (and in consequence the global aviation safety performance) and resilience by providing a collaborative framework for States and industry. This is supported by a series of goals:

Goal 1 is to achieve a continuous reduction of operational safety risks.
Goal 2 calls for all States to strengthen their safety oversight capabilities.
Goal 3 calls for the implementation of effective State safety programmes.
Goal 4 calls for States to increase collaboration at the regional level to enhance safety.
Goal 5 aims to expand the use of industry programmes and safety information sharing networks.
Goal 6 focuses on the appropriate infrastructure needed to support safe operations.

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

The AFI-RASP provides guidance on how States should identify which top risks and key safety issues mentioned in the GASP and AFI-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 AFI-RASP SEIs which are intended for implementation by States at the national level are recommended for inclusion in their NASPs.

In order to mitigate the risk of fatalities, States and industry need to address the R-HRCs. The selection of types of occurrences is based on actual fatalities from past accidents, high fatality risk per accident or the

number of accidents and incidents. The following R-HRCs, in no particular order, have been identified for this edition of the AFI-RASP: controlled flight into terrain; loss of control in-flight; mid-air collision; runway excursion; and runway incursion.

The AFI-RASP or the national aviation safety plans (NASP) developed by States, presents the strategic direction for the management of aviation safety at the regional or national level, respectively, for a three-year period and should be developed in line with the GASP's goals, targets and G-HRCs. The States' NASPs should be developed in alignment with the GASP and the AFI-RASP. To achieve the AFI-RASP and GASP goals and targets, authorities within the State need to provide sufficient resources and qualified technical personnel for the development and implementation of the State's NASP.

The 2023-2025 edition of the AFI-RASP outlines key safety enhancement initiatives (SEIs) at the regional level (provided as Appendices 1, 2, 3 to this Plan), the roles and responsibilities for States, regions and industry, and provides a framework for the cooperation and collaboration of these to support States with the management of organizational challenges and operational safety risks.

The regional aviation safety roadmap serves as an action plan to assist the regional aviation community in achieving the AFI-RASP goals. This roadmap is provided as Appendices 1, 2, 3 to this Plan.

The RASG-AFI is the governing body responsible for the development, implementation and monitoring of the AFI-RASP, in collaboration with the ICAO Regional Offices for Eastern and Southern Africa (ESAF) and Western and Central Africa (WACAF), international and regional organizations and with the aviation industry. The AFI-RASP is to be reviewed by the Safety Support Teams (SSTs) every six months mainly to review the effectiveness and relevance of the existing SEIs, include newly identified ones, as well as their respective actions; and report to the RASG-AFI Steering Committee (RASC). The RASC would continuously monitor the implementation of the SEIs listed in the AFI-RASP and measure safety performance of the regional civil aviation system, to ensure the intended results are achieved, and report to the RASG-AFI on annual basis.

The AFI-RASP was developed with inputs from experts from civil aviation authorities, industry, other aviation stakeholders as well as regional and international organizations, and thereafter submitted for extensive peer review, taking into account feedback from the expert community. The RASG-AFI gratefully acknowledges the contributions of the RASG-AFI States, Regional Safety Oversight Organizations (RSOOs), Regional Aircraft Accident Investigation Organizations (RAIOs), and individual experts who provided support, advice and input for this plan.

TABLE OF CONTENTS

Title *Page*

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. A systematic, independent and documented process for obtaining evidence and evaluating it objectively to determine the extent to which requirements and audit criteria are fulfilled.

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.

Gap analysis. An evaluation that compares an existing situation to the desired one, it identifies specific steps that can be taken to reach a desired goal.

Hazard. A condition or an object with the potential to cause or contribute to an aircraft incident or accident.

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

Note.— The types of incidents which are of main interest to the International Civil Aviation Organization for accident prevention studies are listed in Annex 13, Attachment C.

Maximum mass. Maximum certificated take-off mass.

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 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.

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.

State safety programme (SSP). An integrated set of regulations and activities aimed at improving safety.

ABBREVIATIONS AND ACRONYMS

ADREP	Accident/incident data reporting
AIB	Accident Investigation Board
AFI-RASP	Africa-Indian Ocean Regional Aviation Safety Plan
APIRG	AFI Planning and implementation regional group
ATO	Approved training organization
CAA	Civil aviation authority
CAST	Commercial Aviation Safety Team
CFIT	Controlled Flight Into Terrain
CICTT	Commercial Aviation Safety Team (CAST)/ICAO Common Taxonomy Team
FIR	Flight Information Region
GANP	Global Air Navigation Plan
GASP	Global Aviation Safety Plan
G-HRC	Global High-risk category of occurrence
iSTARS	Integrated Safety Trend Analysis Reporting System
LOC-I	Loss of Control In-flight
NASP	National aviation safety plan
NCLB	No Country Left Behind
N-HRC	National High-risk category of occurrence
PQ	Protocol Question
RAIO	Regional accident and incident investigation organization
RASC	RASG-AFI Steering Committee
RASG-AFI	Regional aviation safety group for Africa-Indian Ocean
R-HRC	Regional High-risk category of occurrence
RSOO	Regional safety oversight organization
SARP	Standards and Recommended Practices
SEI	Safety enhancement initiative
SMS	Safety management system
SSC	Significant Safety Concern
SSP	State safety programme
SST	Safety Support Team
UPRT	Upset Prevention and Recovery Training
USOAP	Universal Safety Oversight Audit Programme

PART-I. PLANNING

Chapter 1. INTRODUCTION

1.1 Overview of the AFI-RASP

1.1.1 The Regional Aviation Safety Group for Africa-Indian Ocean (RASG-AFI) is committed to enhancing aviation safety, to the resourcing of supporting activities and to increasing collaboration at the regional level. The purpose of this regional aviation safety plan for Africa-Indian Ocean (AFI-RASP) is to continually reduce fatalities, and the risk of fatalities, through the development and implementation of a regional aviation safety strategy. A safe aviation system contributes to the economic development of the RASG-AFI region, the States which comprise it, and their industries. The AFI-RASP promotes the effective implementation of safety oversight systems of States in RASG-AFI, a risk-based approach to managing safety at the regional level, as well as a coordinated approach to collaboration between States in the region, Regional Safety Oversight Organizations (RSOOs), Regional Aircraft Accident and Incident Investigation Organizations (RAIO), other regional and international organizations, and industry. All stakeholders are encouraged to support and implement the AFI-RASP as the regional strategy for the continuous improvement of aviation safety.

1.1.2 The AFI-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.

1.1.3 Reports on the progress on implementation of the plan will be produced by the SSTs to the RASC on a quarterly basis. The RASC will evaluate the effectiveness of the SEIs and their relevance, and ensure that the process to manage risks continuously improves; this may contribute to the identification of new safety issues. The RASC will be reporting to the RASG-AFI on annual basis accordingly. RASG-AFI is committed to enhancing aviation safety and to increasing collaboration at the regional level.

1.1.4 The AFI-RASP is in alignment with the ICAO *Global Aviation Safety Plan* (GASP, Doc 10004) and the national aviation safety plans of States in the region.

1.2 Structure of the AFI-RASP

1.2.1 This AFI-RASP presents the regional strategy for enhancing aviation safety for a period of three years. It comprises two parts (planning, implementation and monitoring) and seven chapters. In addition to the introduction, sections include: the purpose of the AFI-RASP, RASG-AFI's strategic approach to managing aviation safety at the regional level, the regional operational safety risks identified for the 2023-2025 AFI-RASP, regional organizational challenges addressed in the AFI-RASP, and a description of how the implementation of the safety enhancement initiatives (SEIs) listed in the AFI-RASP is going to be monitored.

The AFI- RASP 2023-2025 Edition comprises two parts:

- **Part-I. Planning** includes the introduction, describes the strategic approach to managing aviation safety, regional operational safety risks, and regional organizational challenges. It consists of **Chapters 1 to 5.**

- **Part-II. Implementation** contains the implementation of the plan and safety performance monitoring with the detailed list of AFI-RASP safety actions. It consists of **Chapters 6**

and 7.

- Both parts are supported by appendices providing further details.

The **chapter 6** presents the RASG-AFI Region safety indicators and targets. It facilitates the identification of SEIs and their respective actions relevant for each Goal identified in the Region Safety Strategy as follows:

Goal 1 is to achieve a continuous reduction of operational safety risks.
Goal 2 calls for all States to strengthen their safety oversight capabilities.
Goal 3 calls for the implementation of effective State safety programmes.
Goal 4 calls for States to increase collaboration at the regional level to enhance safety.
Goal 5 aims to expand the use of industry programmes and safety information sharing networks.
Goal 6 focuses on the appropriate infrastructure needed to support safe operations.

1.2.2 The RASG-AFI Region Safety Strategy includes six (6) Goals in line with GASP 2023-2025 Edition. SEI(s) have been identified and mapped to each Goal established, 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);
- **Objective** (What is to be achieved);
- **Monitoring Progress** (How to improve in the future);
- **Achievements** (How 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 documents from which the SEI is adopted, if applicable.

Stakeholders: The entities/ stakeholders in the RASG-AFI 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 by 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

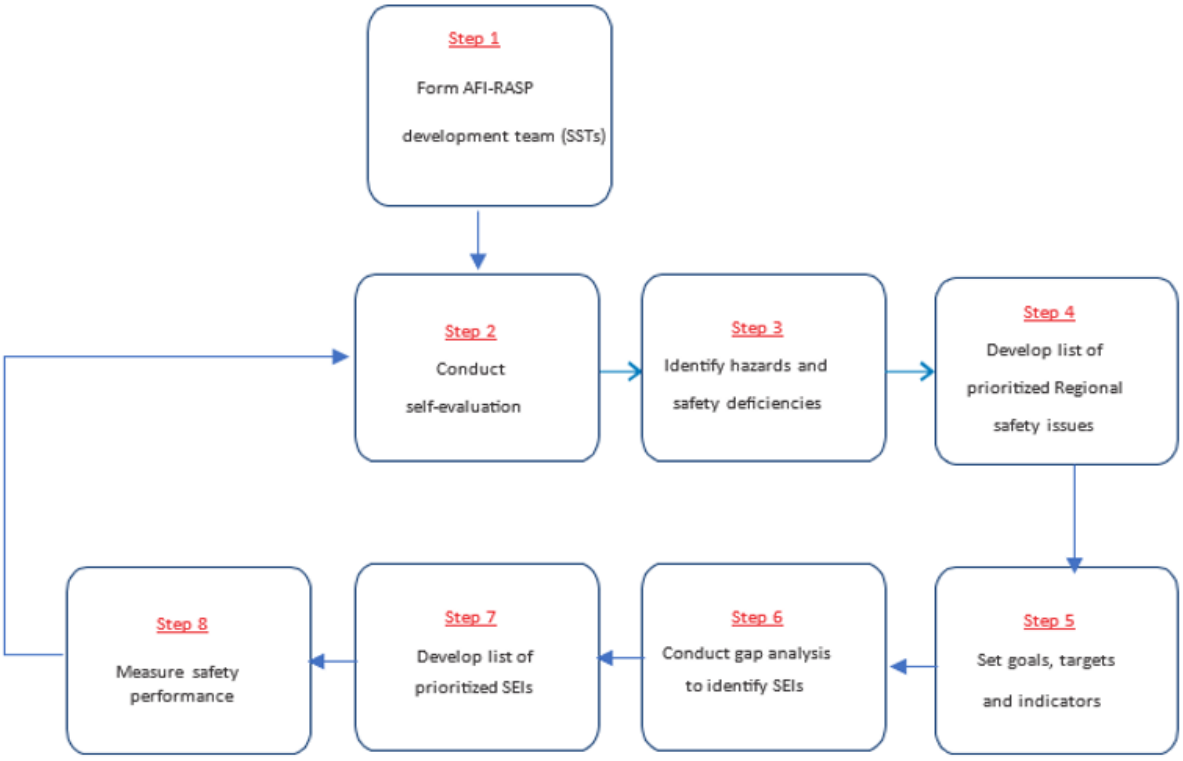
Deliverable(s)	**Timeline**
Description of the Result to be achieved	The year in which the respective Target is expected to be achieved

1.3 Responsibility for the AFI-RASP Development, Implementation and Monitoring

1.3.1 The Safety Support Teams (SSTs), under the directive of the RASG-AFI, is responsible for the development, implementation and monitoring of the AFI-RASP, in collaboration with the ICAO Regional Offices for Eastern and Southern Africa (ESAF) and Western and Central Africa (WACAF), African Civil Aviation Commission (AFCAC), international and regional organizations; and with the aviation industry. The AFI-RASP was developed in consultation with States, operators and other stakeholders in the region, and in alignment with the 2023-2025 edition of the GASP, to ensure that the plan and its content reflect the needs of the aviation community at the regional and national levels. **Appendices 1, 2, 3** contain SEIs related to identified regional operational risks, organizational challenges, and emerging risks. In addition, the SSTs take the lead and ensure that SEIs are accomplished in a timely, effective and efficient manner in coordination with States, regional organizations, and industry.

1.3.2 The key contents of the AFI-RASP are developed using an eight-step process recommended by the GASP to develop RASPs and NASPs, similar to the continuous improvement cycle, as follows:

Figure 1: AFI-RASP development process



Note 1.— The NASP should ideally connect with other national plans, some of which may or may not be exclusively focused on civil aviation (for example, air navigation, economic development, environment or security). This connection ensures the integration of the NASP to other areas of aviation and raises the visibility of aviation-related initiatives at the broader national level.

Step 1 – Form AFI-RASP development team (Safety Support Teams – SSTs);

Step 2 – Conduct self-evaluation;

Step 3 – Identify hazards and safety deficiencies;

Step 4 – Develop list of prioritised regional safety issues;

Step 5 – Set goals, targets and indicators;

Step 6 – Conduct gap analysis to identify SEIs;

Step 7 – Develop list of prioritised SEIs; and

Step 8 – Measure safety performance.

1.3.2.1 FORM THE AFI-RASP DEVELOPMENT TEAM (STEP 1)

1.3.2.1.1 The process for developing the AFI-RASP begun by assigning a responsible entity (the RASG-AFI Safety Support Teams – SSTs), to lead the development of the AFI-RASP. The SSTs are responsible for completing steps 2 to 8 in **Figure 1**.

1.3.2.1.2 The AFI-RASP development process requires active engagement with stakeholders to allow for a better understanding of the operational context, the identification of hazards and safety deficiencies, and the development of possible mitigation strategies (in other words, SEIs) from the perspective of each stakeholder. Therefore, the SSTs have identified stakeholders early in the development process. In addition to the direct stakeholders (for example, the CAA, service providers, etc.), any entity which could be involved in financing, implementing or influencing changes, or which is significantly affected by these changes, should be considered (for example, national Focal Points for NASPs, national continuous monitoring coordinators and points of contact responsible for other aviation-related national plans and programmes, such as the national air navigation plan or the national civil aviation security programme), in order to promote visibility and alignment among them.

1.3.2.1.3 Once the stakeholders have been identified, the list of participants on the AFI-RASP development was reviewed by the SSTs to ensure that all appropriate constituents are represented. Successful implementation of the AFI-RASP depends on having the appropriate stakeholders actively engaged in its development. The membership list of the AFI-RASP development SSTs is provided as **Appendix 4** to this Plan.

1.3.2.1.4 The membership list of the AFI-RASP development SSTs is the output from this step.

1.3.2.2 CONDUCT A SELF-EVALUATION (STEP 2)

1.3.2.2.1 Once the SSTs are set up, they began their work with an evaluation of the current situation in the Region to obtain an understanding of its operational context. This activity is referred to as a self-evaluation.

1.3.2.2.2 To develop the AFI-RASP, the SSTs understand the operational context in which the AFI-RASP will be implemented. Every State in the RASG-AFI Region has a collection of factors that may contribute to or otherwise affect the management of aviation safety within the Region. A key part of the AFI-RASP development process is to identify the Region's strengths and enablers that can promote change and to build upon these. The self-evaluation helps the SSTs to understand the Region's operational context and should include: the analysis of established capabilities; system size and level of complexity; and available resources, using several sources of information.

1.3.2.2.3 As shown in **Figure 1**, the self-evaluation should be repeated at regular intervals and according to the results of safety performance measurement and developing trends. Other factors, such as a significant change in the Region's operational context or other aviation-related regional plans and programmes may also prompt consideration of a new self-evaluation and corresponding updates to the AFI-RASP.

1.3.2.2.4 Other key aspects the SSTs should assess are:

a) the effective implementation (EI) of the eight critical elements of States' safety oversight system in the Region; and

b) the SSP implementation and maintenance, as well as its continuous improvement.

1.3.2.2.5 These aspects allow the SSTs to understand the Region's safety oversight capabilities and operational context.

1.3.2.2.6 ICAO has provided several tools that can assist the SSTs to identify specific issues related to safety oversight and SSP implementation. The Integrated Safety Trend Analysis and Reporting System (iSTARS) tools are available online at www.icao.int/safety/iStars. They include, but are not limited to the following applications:

a) Protocol Question (PQ) Tester;

b) Safety Audit Information;

c) Regional Safety Briefing;

d) State Safety Briefing;

e) SSP Gap Analysis; and

f) SSP Foundation.

1.3.2.2.7 In addition, the Universal Safety Oversight Audit Programme Continuous Monitoring Approach (USOAP CMA) Online Framework (OLF) is a suite of web-integrated applications and centralized database systems, which enables collection of safety-related information and documentation from different sources, and monitors and reports on safety oversight activities by ICAO and States. Further information about the OLF can be found on the ICAO website at www.icao.int/usoap. A dedicated website provides States with access to the OLF for the:

a) completion or updates of the State aviation activity questionnaire (SAAQ);

b) completion or updates of the compliance checklists through the electronic filing of differences (CC/EFOD) system;

c) completion or updates of the USOAP CMA self-assessment;

d) completion or updates of the State corrective action plan (CAP);

e) response to mandatory information requests (MIR); and

f) access to all safety-related information generated by USOAP CMA activities.

1.3.2.2.8 The AFI-RASP may call for States to incorporate and implement a series of regional SEIs into their respective NASPs. However, it is valuable for the SSTs to understand the Region's operational context, which will then enable it to identify hazards and safety deficiencies and prioritize regional safety issues (as part of steps 3 and 4). This is an important part of the AFI-RASP development process to ensure the AFI-RASP will be tailored appropriately and that it will be meaningful to the Region as well as the needs of States in the Region. The SSTs may refer to the GASP and the individual NASPs for information, but they should ensure that any global, regional or national safety issues, or SEIs to address them, are relevant to the national aviation systems before States in

the Region can incorporate them into their NASPs.

1.3.2.2.9 The document containing the self-evaluation is the output from this step.

1.3.2.3 IDENTIFY HAZARDS AND SAFETY DEFICIENCIES (STEP 3)

1.3.2.3.1 Based on the results of the self-evaluation, the SSTs can identify the hazards and safety deficiencies that need to be addressed in the AFI-RASP, as well as the stakeholders who should be involved in addressing them. In the context of the AFI-RASP development process, hazards and safety deficiencies include operational safety risks and organizational challenges (for example, lack of effective safety oversight, difficulties in implementing an SSP).

1.3.2.3.2 In addition to the self-evaluation, the SSTs consulted the GASP 2023-2025 edition. This document assists in determining operational safety risks and their contributing factors, as well as organizational challenges. The SSTs also referred to the RASG-AFI for assistance in identifying hazards and safety deficiencies. As noted in step 2, the SSTs did not just refer to the GASP or RASG-AFI in an attempt to skip this step; it is valuable for the SSTs to determine the Region's operational safety risks and organizational challenges. These other sources provide additional information.

1.3.2.3.3 The SSTs conduct data-driven analyses (or use existing analyses, or other information) to determine operational safety risks and contributing factors leading to Regional high-risk categories of occurrences (R-HRCs), as well as any systemic safety deficiency (in other words, organizational challenges).

1.3.2.3.4 The SSTs may identify hazards and safety deficiencies based on analyses from:

a) mandatory reporting systems;

b) voluntary reporting systems, while ensuring that the Region accords protection to safety data captured by, and safety information derived from, these and related sources[1];

c) accident and incident investigation reports, which may assist in identifying contributing factors to accidents and incidents, as well as lessons learned from the analysis of occurrences;

d) safety oversight activities over a defined period;

e) the SSP (if applicable to the State);

f) USOAP data;

g) regional analysis conducted by entities such as the RASG-AFI, regional safety oversight organization (RSOO), planning and implementation regional group (PIRG), and/or regional accident and incident investigation organization (RAIO), and any resulting regional HRCs (R-HRCs) as well as organizational challenges; and

[1] . Safety information contained in voluntary safety reporting systems is established for the sole purpose of maintaining and improving safety, and qualifies for protection under Annex 19 — *Safety Management*.

h) G-HRCs and organizational challenges described in the GASP.

1.3.2.3.5 Based on the results of the self-evaluation and the identified hazards and safety deficiencies, the SSTs may identify additional stakeholders with supporting capabilities, additional resources and other strengths or opportunities that can assist it in addressing the safety issues and enable SEIs. Stakeholder mapping should include all stakeholders that can contribute to the success of the AFI-RASP. Therefore, this step may result in additional stakeholders being included in the SSTs, since they may be involved in developing, implementing and monitoring SEIs in the AFI-RASP.

1.3.2.3.6 The SSTs have prepared a list of identified hazards and safety deficiencies. The list describes a series of Regional operational safety risks, including the G- and N-HRCs (that may be applicable from the GASP and NASP). The SSTs have also included in this list, a series of organizational challenges that exist in the States in the Region. The list of hazards and safety deficiencies will later become the basis for the regional safety issues that the AFI-RASP and NASPs will address.

1.3.2.3.7 A list of hazards and safety deficiencies is the output from this step.

1.3.2.4 DEVELOP LIST OF PRIORITIZED REGIONAL SAFETY ISSUES (STEP 4)

1.3.2.4.1 Once the SSTs have completed listing the hazards and safety deficiencies, it proceeded to the next step: defining regional safety issues that should be given priority in the AFI-RASP The identification of hazards and safety deficiencies enables the SSTs to define a series of regional safety issues, which will later be transformed into regional safety goals and targets. During this step of the process, the SSTs reviewed the list of hazards and safety deficiencies to be addressed in the AFI-RASP and determined which ones should be given priority. The SSTs used a quantitative approach (in other words, data-driven) to develop a list of prioritized regional safety issues. Where a quantitative approach is not feasible, it may rely on the knowledge and expertise of the AFI-RASP SSTs. Highest priority was given to issues that have the greatest impact on safety, such as the R-HRCs.

1.3.2.4.2 For operational safety risks, the SSTs categorized certain types of occurrences, such as R-HRCs, in the Region's operational context, and consider them of the utmost priority based on the number of fatalities and risk of fatalities associated with such occurrences.

1.3.2.4.3 In addition to R-HRCs, the SSTs may categorize certain organizational challenges as regional safety issues and consider them of priority because they impact the effectiveness of safety risk controls.

1.3.2.4.4 As a result of step 4, the SSTs prepared a list of prioritized regional safety issues to be addressed in the AFI-RASP.

1.3.2.4.5 The list of prioritized regional safety issues is the output from this step

Note.— Before finalizing the list, the development team should verify whether the list of prioritized national safety issues included in the NASP interrelates with other national and/or regional civil aviation plans (for example, the national air navigation plan).

1.3.2.5 SET GOALS, TARGETS AND INDICATORS (STEP 5)

1.3.2.5.1 The SSTs have used the list of prioritized regional safety issues to set the regional safety goals and targets. Regional safety issues that were given priority (in step 4) are formulated into statements

that set goals and targets within the AFI-RASP.

1.3.2.5.2 The regional safety goals are the results toward which the Region's efforts in aviation safety are directed. They present the desired outcomes that the Region's safety strategy (to be presented in the AFI-RASP) aims to produce. The SSTs write the regional safety goals in a manner that describes high-level outcomes that Region aims to achieve (for example, strengthen the Region's safety oversight capabilities).

1.3.2.5.3 Each of the regional safety goals contain specific targets. Targets are specific desired outcomes from the specific actions taken by the Region (and industry, where applicable) to achieve the regional safety goals, at a certain point of time. The SST s should write the regional safety targets in a manner that identifies who the specific actions are directed to (for example, the States).

1.3.2.5.4 Each target should also include a list of indicators that the Region will use to measure progress towards achieving the respective goal. Goals may contain more than one target and each of the targets should be linked to a series of indicators. Indicators are a measurement index used to evaluate whether the AFI-RASP yields the expected results. The indicators provide evidence about whether the desired outcomes occurred, and measure the progress in the activities related to the national safety targets. The SSTs wrote the indicators in a manner that references quantitative data (for example, number or percentage). Some indicators may refer to occurrences that are deemed an outcome of deficient management of aviation safety (for example, number of accidents). Others may refer to activities conducted by the Region or other stakeholders, deemed to improve the management of aviation safety (for example, percentage of completed corrective action plans). Some indicators may also be relevant to multiple goals or targets. Ultimately, the Region has used a series of indicators to measure the achievement of the regional safety goals (and associated targets) presented in the AFI-RASP (refer to step 8).

1.3.2.5.5 The list of regional safety goals, targets and indicators is the output from this step. The SSTs are aware of how the regional safety goals, targets and indicators may affect other national civil aviation plans and programmes to mitigate any potential contradictions.

1.3.2.6 CONDUCT GAP ANALYSIS TO IDENTIFY SEIs (STEP 6)

1.3.2.6.1 Once the SSTs have set the regional safety goals and targets, they needed to identify a series of SEIs that will enable their achievement. The next step in the process is to conduct a gap analysis, which helps the SSTs identify specific steps to take to reach each regional safety goal and the associated targets. The SSTs did not only focus on the weaknesses it needs to address, but also identified the strengths within the region that can facilitate closing the gap, such as existing economic frameworks, access to training, etc. To develop the SEIs for the AFI-RASP, the SSTs conducted the gap analysis using the Global Aviation Safety Roadmap (Doc 10161), commonly referred to as "the roadmap". The compilation of SEIs will form the action plan that supports the safety strategy presented in the AFI-RASP.

1.3.2.6.2 The roadmap contains a series of SEIs providing detailed actions to be taken when addressing the identified hazards and safety deficiencies. Using the roadmap, the SSTs selected which SEIs, and their specific actions, will be implemented and in what order.

1.3.2.6.3 To identify SEIs that address organizational challenges, the SSTs referred to the Organizational Challenges (ORG) Roadmap portion of the roadmap. Using data from a number of existing sources (for example, USOAP, Region's surveillance activities and industry assessment programmes) or from the knowledge provided by subject matter experts, the SSTs can identify the appropriate starting point within the ORG Roadmap (for example, Phase 1).

1.3.2.6.4 Following the completion of the gap analysis, the SSTs selected a series of SEIs that are needed to address the identified hazards and safety deficiencies that will help the Region achieve the regional safety goals (and associated targets) presented in the AFI-RASP. By reviewing the identified hazards and safety deficiencies and/or results of the gap analysis in comparison to the selected SEIs, the SSTs can select a list of potential SEIs. To determine if the Region has already completed an SEI, the SSTs may consider the latest USOAP results or the Region's own data if an internal evaluation was conducted. If it is determined that the Region has not completed the SEI, and that it is needed, this would then be listed as a "gap". The SEI would then be identified as one of the SEIs that should be incorporated into the AFI-RASP. The associated actions listed under that SEI (as presented in the roadmap) would need to be listed as actions to complete this SEI. **Figure 2** presents an example of the relationship between the GASP, the AFI-RASP and the NASP.

1.3.2.6.5 In addition, the SSTs conducted a similar review of the SEIs presented in the Operational Safety Risks (OPS) Roadmap portion of the roadmap and identified those that have not been implemented to serve as safety risk mitigations for the R-HRCs. A series of SEIs should be implemented to address contributing factors leading to the R-HRCs. Some of these SEIs were derived from the OPS Roadmap; others were identified through sources such as accident or incident investigations, or safety risk assessments.

1.3.2.6.3 A list of potential SEIs is the output from this step.

1.3.2.7 DEVELOP LIST OF PRIORITIZED SEIs (STEP 7)

1.3.2.7.1 The gap analysis enables the SSTs to identify SEIs that have not been implemented. By reviewing the gaps and the associated SEIs, they can produce a list of potential SEIs. However, it is impractical to attempt to implement a AFI-RASP that addresses all SEIs listed in the roadmap. The SSTs selected the SEIs relevant to the Region and its operational context, by listing them in order of priority. The use of performance management tools, such as the specific, measurable, achievable, relevant and timely (SMART)[2] approach to setting goals and targets, can help frame the actions that the Region and other stakeholders carry out in the context of SEI implementation. The SMART approach may assist stakeholders in staying focused and motivated by ensuring a clear direction and by helping to set achievable targets to promote implementation. The SEIs should contribute to an overall SMART package of goals, targets and indicators.

Note.— Information on the use of SMART is found in Doc 9859.

1.3.2.7.2 When reviewing the gaps identified, the SSTs considered evaluating the safety impact and the ability of (or ease of implementation for) the Region to effect the change for each gap.

Safety impact

1.3.2.7.3 The SSTs evaluated how safety will be enhanced through the elimination of each identified gap and prioritized SEIs that have the greatest impact on safety. Ideally, a quantitative approach using various methodologies was applied. However, it may be difficult to apply a quantitative assessment to all SEIs, as many address the key foundation of aviation safety. With the knowledge of subject matter experts that form part of it, the AFI-RASP SSTs can list potential actions in a manner that will have the greatest impact on safety.

[2] . Developed by George T. Doran in 1981.

Ease of implementation

1.3.2.7.4 Although the SSTs should consider the impact on safety as the primary method to prioritize the list of potential SEIs, it should also assess the ability of stakeholders to make the changes and adapt to a new situation. The evaluation of the ability to effect a change should include:

a) the existence of political will to change; and

b) the availability of resources necessary to implement the change.

1.3.2.7.5 Using the list of SEIs, the SSTs have specified which initiative should be implemented first. The list includes a manageable set of actions that represent the steps necessary to progress towards the achievement of the regional safety goals (and associated targets). Reviews of unsuccessful attempts at previous efforts to improve safety have shown that strategic plans should be developed so that they define successive activities that are achievable. The SSTs did not select SEIs that would require significant transformations of the aviation system in a short time frame. They identified a step-by-step approach to achieving implementation (following all the steps presented in **Figure 1**).

1.3.2.7.6 As a result of step 7, the SSTs generated a prioritized list of SEIs. This list forms the action plan to achieve the regional safety goals (and associated targets). Once a list of potential prioritized SEIs is developed, the SSTs were ready to begin drafting the AFI-RASP. The AFI-RASP is the master document for presenting the regional safety strategy and implementing the SEIs at the regional level.

1.3.2.7.7 The AFI-RASP does not have to contain all actions that will support each SEI in detail; some SEIs may be presented in a stand-alone document containing a detailed implementation plan (for example, for the establishment of an independent regional accident and incident investigation organisation). The AFI-RASP has provided a summary of the SEIs, associated actions, the responsible entity assigned to lead the implementation, general timelines, stakeholders involved, metrics to measure implementation, the priority assigned to each SEI and the means to monitor implementation and effectiveness. A link or reference to the detailed implementation plan may be included in the AFI-RASP.

1.3.2.7.8 A list of prioritized SEIs is the output from this step.

1.3.2.8 **MEASURE SAFETY PERFORMANCE (STEP 8)**

1.3.2.8.1 This final step, on the measurement of safety performance, is divided into two separate tasks:

a) the definition of the process to monitor implementation of the AFI-RASP and its effectiveness; and

b) the actual measurement of safety performance.

1.3.2.8.2 First, the SSTs have defined how the Region will measure safety performance to monitor the implementation of the AFI-RASP and its effectiveness. At this stage, the SSTs have determined aspects, such as the processes to:

a) monitor the implementation of the SEIs listed in the AFI-RASP;

b) track performance of each regional safety target (including the use of the indicators presented in the AFI-RASP); and

c) provide stakeholders with relevant up-to-date information on the progress made in achieving the regional safety goals, as well as the implementation status of SEIs.

1.3.2.8.3 The SSTs have also defined the process for making corrections and adjustments to the AFI-RASP and its SEIs; addressing specific situations (for example, actions in the event that regional safety goals are not met); and reporting on these points to stakeholders. The SSTs have included a description of all these processes in a dedicated section on "monitoring implementation" in the AFI-RASP (refer to Chapter 7 for detailed guidance). This description is the output from this step.

1.3.2.8.4 Once it has defined the process for monitoring implementation, the SSTs have all the content necessary to finalise the drafting of the AFI-RASP, which covers all the points described in **Figure 1.**

1.3.2.8.5 The SSTs' work does not end once the AFI-RASP has been developed and turned over to the organizations or individuals responsible for leading the implementation. This is when the second task of this step begins: the SSTs should measure safety performance to monitor the implementation of the AFI-RASP and assess its actual effectiveness in terms of improving safety at the regional level. The SSTs should periodically monitor the implementation of SEIs to ensure actions are being accomplished, that they are effective and that any difficulties in implementation are dealt with.

1.3.2.8.6 When the implementation of SEIs is completed, or sooner if warranted by other factors (for example, changes in the Region's operational context resulting from disruption events or developing trends), the SSTs should repeat the steps listed in **Figure 1** to ensure the hazards and safety deficiencies, safety issues, as well as the goals and targets are still relevant to the Region's operational context; and identify other SEIs the Region may need to manage. This promotes a regular update of the AFI-RASP to address newly identified hazards and safety deficiencies and ensures continuous improvement.

Note.— The SSTs may exist for the lifespan of each edition of the AFI-RASP (3 years), and its membership may evolve depending on its needs. The RASG-AFI through the RASC and the SSTs, will maintain an ongoing coordination and monitoring of the updates to the AFI-RASP-related SEIs, including responsible persons within the States and the different stakeholder organizations.

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

1.3.4 The RASG-AFI reviews the AFI-RASP as part of its work programme, after submission by the RASC, and consults with States and other stakeholders on proposed amendments. The consultation is conducted through RASG-AFI Meetings and provides the following input:

a) review of the regional progress made in improving aviation safety performance and in the implementation of SSPs and safety management systems (SMS), as well as any relevant risk mitigations;

b) recommendations by the RASC;

c) lessons learned by States, region and industry;

d) possible changes in future aviation needs, regulatory contexts and other influencing factors;

e) results of research, development and validation on operational and technological matters which may affect the global aviation safety roadmap; and

f) proposed amendments to the GASP's content.

1.3.5 The AFI-RASP is intended to elevate the commitment of the RASG-AFI 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 AFI-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.

1.3.6 At the regional level, the AFI-RASP commits RASG-AFI to continue the following efforts:

a. Focus on the development of the current regional SEIs to address the regional High Risk Categories of occurrences (R-HRCs), which are also global: CFIT, LOC-I, MAC, RE and RI, and other priorities as identified for the RASG-AFI region in a data-driven and strategic manner, which may include organizational challenges and emerging risks;
b. Continue implementation support to States and industry, including the development of guidance materials as well as the organization of training workshops to provide assistance and guidance to RASG-AFI States;
c. Assist States in the development and implementation of SSP (SMS by the industry) and the NASPs;
d. Promote regional government and industry collaboration for sharing best practices in safety management;
e. Put in place a mechanism 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;
f. Promote the effective implementation of AGA, with a focus on runway safety Programmes that support the establishment of Runway Safety Teams (RSTs) and implementation of SMS;
g. Support States in the development of legislative framework for Unmanned Aircraft Systems (UAS).

1.3.7 States and industry are committed to the following efforts:

a. Implement, as appropriate, the GASP SEIs and AFI-RASP SEIs and their respective actions effectively and efficiently;
b. Give 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; and establish mechanisms to avoid emergence of new SSCs;

c. Give priority to the implementation of SSP by States; and SMS by the industry;
d. Use data-driven methodologies to identify HRCs, and implement collaborative solutions to reduce accident rates and fatalities in the Region, and likewise accord priority to the implementation of respective SEIs; and

1.3.8 The ICAO ESAF and WACAF Regional Offices

The ICAO Eastern and Southern African; and Western and Central African Offices play a role in supporting and monitoring the achievement of the AFI-RASP goals at the regional and national levels. They promote collaboration at the regional level to enhance safety. The Regional Offices will conduct their safety planning and implementation at strategic levels, and will provide support to the RASG-AFI States at tactical levels for the achievement of their objectives and targets.

The Regional Offices will provide support to the States in the planning and implementation of their national aviation safety plans. To provide this support, the Regional Offices will coordinate with the corresponding States through on-site assistance missions or virtually, as prevailing circumstances may dictate. Such assistance will be conducted in collaboration with other stakeholders including, RSOOs, RAIOs, other States, etc.

1.3.9 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), Airports Council International (ACI) Airport Excellence (APEX) in Safety programme, etc.

1.3.10 The coordination of activities between RASG-AFI and the planning and implementation regional group for Africa-Indian Ocean (APIRG) is key to the successful achievement of the AFI-RASP goals and the AFI Regional Air Navigation Plan ambitions, respectively, since increases in air navigation capacity and improvements in efficiency must be done in a safe manner and appropriate safety risk mitigations are required to prevent accidents.

Relationship with other Global Plans

1.3.11 The Convention on International Civil Aviation establishes ICAO's objective to foster "the planning and development of international air transport". Air transport is a key enabler for sustainable economic and social development. 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).

1.3.12 Safety is critical when planning implementation of air navigation operational improvements, in line with the GANP, to determine if these improvements can be implemented in a safe manner. A safety risk assessment provides information to identify hazards that may arise from, for example:

a) any planned modifications in airspace usage;

b) the introduction of new technologies or procedures; or

c) as a result of the decommissioning of older navigational aids.

1.3.13 A safety risk assessment also enables the assessment of potential consequences (e.g. a mid-air collision). Based on the results of a safety risk assessment, mitigation strategies may be implemented to measure and monitor the safety performance associated with any air navigation operational improvement. Any operational improvement to enhance the performance of the air navigation system should be built based on a safety risk assessment.

1.3.14 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.

1.3.15 Safety and security are of paramount importance in aviation. The travelling public's perception of a safe aviation system is also linked to how secure the system is in actuality. Fatalities that result from acts of unlawful interference affect the public's perception of aviation safety. The GASeP provides the foundation for States, industry and other stakeholders to work together with the shared and common goal of enhancing aviation security worldwide. It aims to achieve key priority outcomes, such as developing a security culture and improving oversight. The GASP goals and targets, which are the same for AFI-RASP, 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. In accordance with Annex 17 — Security, security measures shall be implemented to protect civil aviation "against acts or attempted acts such as to jeopardize the safety of civil aviation". Thus, effective implementation of security measures is instrumental to ensuring safety of civil aviation. Therefore, overall cumulative improvements to aviation security globally enhance not only the security of civil aviation but also contribute to safety, facilitation and operations of the international civil aviation system. There is also a need to assess safety risks stemming from mitigation strategies in the area of security. Integrated risk management principles have the benefit of enabling the best use of risk management measures implemented in both domains in order to strengthen the overall safety of civil aviation, in particular by avoiding negative interference between sector-specific mitigation strategies.

Relationship with the Global Aviation Safety Roadmap (GASR)

1.3.16 Two key elements are included in the aviation safety planning for the RASG-AFI region:

a) *a strategy*: what is to be achieved by a plan? This includes the analysis of challenges, the definition of goals and targets, and how to measure the achievement of these goals and targets; and

b) *an action plan*: how the goals and targets defined in the strategy will be achieved? This includes initiatives needed to achieve the goals and targets.

1.3.17 The RASP-AFI has used the global aviation safety roadmap (which is now presented in a standalone ICAO manual, Doc 10161) as an action plan to assist in developing the AFI-RASP, to feed regional safety management activities and develop specific SEIs to support the strategy presented in the AFI-RASP. The use of the global aviation safety roadmap as the basis for regional and national safety action plans enhances coordination, thus reducing inconsistencies and duplication of effort. The global aviation safety roadmap outlines specific SEIs associated with the GASP goals and targets, as well as the G-HRCs, through a structured, common frame of reference for all relevant stakeholders. Correspondingly, specific SEIs associated with AFI-RASP goals and targets have been outlined, as well as the R-HRCs. Each SEI includes a set of actions that stakeholders may use to develop and implement specific action plans.

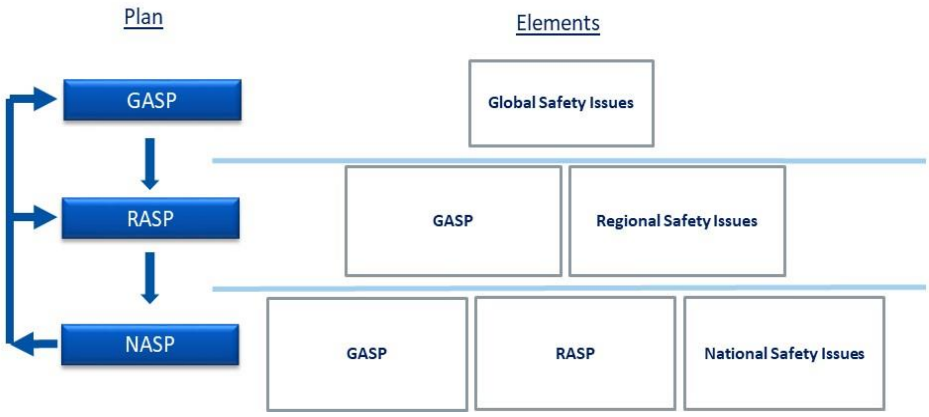
Relationship with Global and National Aviation Safety Plans

1.3.18 The GASP establishes a global strategy for improving aviation safety. It presents global goals and G-HRCs. The AFI-RASP presents the strategic direction for the management of aviation safety for the RASG-AFI region for three years. It outlines to all stakeholders where the different regional entities involved in the management of aviation safety should target resources over the coming years.

The AFI-RASP is developed in line with the GASP goals, targets and G-HRCs. However, it is based on the RASG-AFI region's own risk assessment and address its specific operational safety risks and organizational challenges.

1.3.19 A NASP presents the strategic direction for the management of aviation safety at the national level, for a set period. It presents the national safety goals and targets, the operational safety risks and organizational challenges, as well as SEIs with specific actions to address them (i.e. an action plan). The RASG-AFI States should use both the GASP and the AFI-RASP to develop its NASP. Although the State should consult the latest edition of the GASP and AFI-RASP, it should not solely refer to the GASP and/or AFI-RASP when developing its NASP. It is valuable to identify the State's operational safety risks and organizational challenges, using existing processes and information (e.g. safety risk assessments). The GASP includes specific targets that are applicable to all States, to enhance safety nationally and contribute to the improvement of aviation safety at the international level. The AFI-RASP presents regional goals, targets and R-HRCs, some of which are additional to the ones listed in the GASP. Some of the SEIs in the AFI-RASP may not apply directly to a State, as they may be addressed to the RASG-AFI or to another regional entity. However, some targets or SEIs may be addressed to individual States (e.g. States in the region to certify all aerodromes used for international operations by 2025). In this case, the regional target or specific SEI should be included in the State's NASP, in addition to the relevant information from the GASP. Therefore, the RASG-AFI States should consult both the GASP and the AFI-RASP when developing its NASP. **Figure 2** below, illustrates the relationship between the GASP, the RASP and the NASP.

Figure 2; Relationship between the GASP, the RASP and the NASP



1.4 Regional Safety Issues, Goals and Targets

1.4.1 The identification of safety-related challenges and the prioritization of areas that require action are key steps in the aviation safety planning process. Safety data used to identify challenges and define priorities includes, but is not limited to: accident or incident investigations; safety reporting; continuing airworthiness reporting; operational performance monitoring; inspections, audits, surveys; and safety studies and reviews.

1.4.2 The AFI-RASP has been developed in alignment with the GASP, and supports the GASP aspirational goal of zero fatalities by 2030 and beyond, and its objectives, goals, targets and indicators. The AFI-RASP serves to raise awareness of safety risks and consequences to States, industry and relevant stakeholders to commit and provide resources including human and financial, 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.

a) The AFI-RASP structure adheres closely to the GASP;
b) A comprehensive gap analysis was undertaken to identify the existing gaps between the work by RASG-AFI and the ICAO Manual: Doc 10131, 'Manual on the Development of Regional and National Aviation Safety Plans;
c) The RASG-AFI safety strategy is aligned with GASP 2023-2025 Edition, and is included in Chapter 3 to the AFI-RASP; and
d) The AFI-RASP SEIs were selected taking into consideration relevant SEIs for the region and in line with GASP 2023-2025 Edition as well as relevant work programmes of the RASG-AFI, APIRG, AFI-DGCA, etc.

1.4.3 The AFI-RASP addresses the following regional safety issues:

a) Focus on the development of the current regional SEIs to address the global High Risk Categories (G-HRCs) of LOC-I, CFIT, MAC, RE and RI, and other priorities as identified for the RASG-AFI region in a data-driven and strategic manner, which may include organizational challenges and emerging risks;
b) 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 RASG-AFI States;
c) Assist States in the implementation of SSP and SMS;
d) Assist States in the development and implementation of NASPs;
e) Promote regional government and industry collaboration for sharing best practices in safety management;
f) 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;
g) Support States in the enhancement of effective implementation scores in the areas of AIG, ANS and AGA;
h) Support States in the development of their unmanned aircraft systems regulatory framework and related guidance material (civilian drones);
i) Support States in matters related to the impact of security on safety;
j) Consideration of the impacts of disruption events on aviation (e.g. COVID-19 pandemic);

1.4.4 States and industry are committed to the following efforts:

a) States with SSCs to give priority to the resolution of the SSCs identified by the ICAO USOAP CMA Programme (this would call for the commitment of necessary resources available, including technical assistance from other States and Regional Programmes to resolve the SSCs promptly);
b) Implement, as appropriate, the SEIs of GASP and AFI-RASP; and their respective actions;
c) Give priority to the implementation of SSP and SMS;
d) Use data-driven methodologies to identify HRCs, 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) and IATA Standard Safety Assessment Programme (ISSA). 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.
f) Develop measures to respond effectively to disruption events (e.g. COVID-19 pandemic) to maintain a safe, resilient and sustainable level of operations;
g) Establish a mechanism and measures to share, communicate and collaborate on effective mitigation measures and efforts to support safe resumption of operations following a disruption

event.

1.4.5 The GASP contains an aspirational safety goal to achieve and maintain zero fatalities in commercial operations by 2030 and beyond. This goal is deemed "aspirational" as it represents an ambition of achieving an even safer aviation system. The year 2030 has been selected as this aligns with the target year presented in the UN SDGs Agenda for Sustainable Development.

1.4.6 The AFI-RASP goals are the results toward which efforts in regional aviation safety are directed. They present the desired outcomes that RASG-AFI's Safety Strategy (as presented in the AFI-RASP) aims to produce. Each of the AFI-RASP goals contains specific targets. Targets are specific desired outcomes from the actions taken by States, the region and industry to achieve the goals, at a certain point of time. Each AFI-RASP target also includes indicators that States and other stakeholders may use to measure progress towards achieving the respective goal. Indicators are used to evaluate if the AFI-RASP yields the expected results by States, region and industry. The indicators provide evidence about whether the desired outcomes occurred, and measure the progress in the activities related to the AFI-RASP targets.

1.4.7 To address the issues listed above and enhance aviation safety at the regional level, the 2023-2025 Edition of the AFI-RASP contains the following goals and targets, which are in alignment with the goals and targets of the 2023-2025 Edition of the GASP to ensure consistency:

Goal 1 of the AFI-RASP is to achieve a continuous reduction of operational safety risks. This reduction is achieved by a series of SEIs targeting the R-HRCs. This goal addresses operational safety issues, which States, the region and industry face and being mitigated as part of NASPs and AFI-RASP.

Target 1.1 calls for the decrease of the regional accident rate for commercial scheduled operations. Several indicators are linked to this target including: accident, fatal accident and fatality rates (i.e. number of occurrences per million departures). These indicators also include the percentage of occurrences related to the HRCs, percentage of international airports with established runway safety teams (RSTs), number of AIRPROX Occurrences recorded.

Goal 2 is aimed at States individually and seeks to strengthen their safety oversight capabilities. This goal calls for all States to progress in their implementation of the eight CEs and address the organizational challenges they face when implementing a safety oversight system.

Target 2.1 calls for all States to improve their score for the EI of the CEs of the State's safety oversight system in a progressive manner that would result in incremental increases, until a high overall EI score is reached. As part of this target, States should focus closely on the priority protocol questions (PPQs) related to a safety oversight system. The term "priority PQs" refers to PQs that have a higher correlation to operational safety risks. Examples of indicators related to this target include the number of States that have fully implemented the priority PQs and the percentage of required CAPs submitted by States to ICAO via the online framework (OLF) to address findings from Universal Safety Oversight Audit Programme (USOAP) continuous monitoring approach (CMA) activities.

Note.— The list of priority PQs can be found on the USOAP CMA OLF at

https://www.icao.int/safety/CMAForum/Pages/default.aspx.

Goal 3 is also aimed at individual States and calls for the implementation of effective SSPs. The goal addresses organizational challenges faced by States when implementing an SSP and includes the implementation of SMS by service providers within individual States, in accordance with Annex 19.

Target 3.1 calls for all States to implement the foundation of an SSP by 2023. The term "foundation of an SSP" refers to a sub-set of USOAP PQs that aim to assist States in building a solid safety

oversight foundation for the implementation of an SSP. These are referred to as "SSP foundation PQs". Indicators related to the foundation of an SSP include the number of States having implemented the applicable SSP foundation PQs, as well as the percentage of required CAPs related to the SSP foundation PQs submitted by States using the USOAP CMA OLF.

Note.— The full list of SSP foundation PQs is provided with the SSP foundation tool available via the ICAO iSTARS at www.icao.int/safety/iStars.

Target 3.2 calls for all States to publish a NASP by 2024. This is part of the SSP-related GASP goal because a State should define and publish its strategy and actions to ensure effective safety management and address organizational challenges in a dedicated plan, as part of the SSP (refer to Chapter 3). Therefore, the NASP can assist a State in developing a strategy, including an action plan with specific SEIs, to facilitate SSP implementation. Through the NASP, the State expresses its commitment to enhancing aviation safety and to the resourcing of supporting activities. The publication of a NASP, as the document containing the State's strategic direction for the management of aviation safety at the national level, allows for the allocation of resources dedicated to the SSP, through the development and implementation of that plan. The example of an indicator for this target is the number of States having published a NASP.

Target 3.3 calls for work towards an effective SSP through a phased approach, with target dates leading up to 2028. Once States have implemented the foundation of an SSP, they can then progress into Target 3.3. An "effective SSP" refers to an SSP that actually achieves the desired results. Effectiveness of the different aspects of an SSP is measured through maturity level matrices in the State Safety Programme Implementation Assessment (SSPIA), which forms part of the USOAP CMA activities to assess States' implementation of ICAO safety management provisions.

Goal 4 is aimed at the RASG-AFI region as defined in the GASP. It calls for States to increase collaboration at the regional level to enhance safety. Three targets are associated with this goal.

Target 4.1 urges States that do not expect to meet AFI-RASP Goals 2 and 3 to seek assistance to strengthen their safety oversight capabilities. States should seek assistance with sufficient lead-time to reach the other targets in the AFI-RASP related to safety oversight capabilities, set for 2024. Indicators include the number of States that have published their NASPs and registered on the ICAO NASP Online Community, as this document should present organizational challenges that the State would require assistance addressing.

Target 4.2 calls for all States to contribute information on operational safety risks, including SSP SPIs and emerging issues, to the RASG-AFI by 2025. This target aims to build up RASG-AFI's safety risk management capabilities. Indicators for this target include the number of reports received via the *Secure Portal on Operational Safety Risks and Emerging Issues* and validated, as well as the percentage of SEIs completed by RASG-AFI on safety risk management.

Note.— Additional information on the Secure Portal on Operational Safety Risks and Emerging Issues is found on the ICAO website at https://www.icao.int/safety/GASP/Pages/Secure-Portal.aspx.

Goal 5 of the AFI-RASP is directed at industry and aims to expand the use of industry programmes and safety information sharing networks by service providers.

Target 5.1 calls for industry to maintain an increasing trend in its contribution in safety information sharing networks to States and the RASG-AFI region to assist in the development of national and regional aviation safety plans, respectively. Indicators related to this target include the percentage of service providers participating in the corresponding ICAO-recognized industry assessment programmes. While such programmes do not replace the need for safety oversight by States, ICAO recognizes the benefits of these programmes, which have a positive effect on operational safety among service providers.

For the purpose of the GASP, ICAO-recognized industry assessment programmes include the following:

a) Airports Council International (ACI) Airport Excellence (APEX) in Safety programme;

b) Civil Air Navigation Services Organisation (CANSO) and European Organisation for the Safety of Air Navigation (EUROCONTROL) maturity assessment within the Standard of Excellence in Safety Management Systems;

c) Flight Safety Foundation (FSF) Basic Aviation Risk Standard (BARS);

d) International Air Transport Association (IATA) Operational Safety Audit (IOSA);

e) IATA Safety Audit for Ground Operations (ISAGO); and

f) International Business Aviation Council (IBAC) International Standard for Business Aircraft Operations (IS-BAO).

Goal 6 focuses on the need to ensure the appropriate infrastructure is available to support safe operations.

Target 6.1 aims to maintain an increasing trend of States with air navigation and aerodrome infrastructure that meets relevant ICAO Standards. Indicators for this target are the number of infrastructure-related air navigation deficiencies by State against the regional air navigation plans and the percentage of States having implemented infrastructure-related PQs linked to the basic building blocks. This target is associated to the activities outlined in the GANP.

Note.— The Manual on Monitoring Implementation of Regional and National Aviation Safety Plans *(Doc 10162[3]) contains guidance on data sources for indicators used to measure the achievement of the NASP and RASP*

1.5 Operational Context

1.5.1 The air transport industry is not only a vital engine of global socio-economic growth but is also of vital importance as a catalyst for economic development by, creating direct and indirect employment; supporting tourism and local businesses; and stimulating foreign investment and international trade. Currently, the Global Air Transport Industry supports almost 65.5 million jobs worldwide and contributes USD 2.7 trillion to Global Gross Domestic Product (GDP), equivalent to 3.6% of global GDP and USD704.4 billion aviation direct economic impact. Africa accounts for 18% of the global population, but just 2.1% of air transport activities (combined cargo and passenger). Pre-COVID aviation supported 7.7 million jobs and $63 billion in economic activity in Africa. Projections are for demand to triple over the next two decades.

1.5.2 Aircraft departures for the RASG-AFI region showed a steady growth during the pre-COVID-19 period, increasing from 851 thousand in 2016 to 974.4 thousand in 2019. However, this figure dropped to 549 thousand departures in 2020 due to the outbreak of COVID-19, which caused an unprecedented disruption in aviation operations. 2021 showed an increasing trend in the number of aircraft departures (i.e. from 549 thousand in 2020 to 652 thousand in 2021), which is a prediction of a positive growth in the post-COVID-19 era. The COVID-19 pandemic has impacted negatively on the air transport industry. The worldwide capacity in terms of Available Seat-Kilometres (ASK)

contracted by -27.5% in June 2022, compared to 2019 whilst the capacity for Africa (which constituted 6.5% of worldwide capacity) contracted by -34.3% in June 2022, compared to 2019.

1.5.3 The RASG-AFI region comprise 48 States (24 accredited to the ESAF Office and 24 to the WACAF Office). 46 out of the 48 States have received a USOAP CMA activity; 2 States (Somalia and South Sudan) were yet to receive a USAOP CMA activity due to unstable political situations in the States.

1.5.4 The aviation safety regulatory landscape varies significantly in terms of capacity and civil aviation development, with USOAP Effective Implementation (EI) scores ranging from 7.72% to 91.11%. The RASG-AFI States have achieved an overall Effective Implementation level of 57.11 per cent; and 11 RASG-AFI States have achieved the GASP Target of 75 per cent EI as at 31 December 2022. Two audit areas (LEG and AIR) and One critical element (CE-1) were above the target of 75% EI. OPS, AIG, ANS, and AGA audit areas; and CE-4, CE-5, CE-6, CE-7, CE-8 were the lowest in terms of EI score for the region, as shown in Chapter 5.

1.5.5 The RASG-AFI regional accident rate decreased from 10.34 accidents per million departures in 2019 to 1.53 in 2021, based on scheduled commercial operations involving fixed-wing aircraft with a maximum certificated take off mass greater than 5,700 kg. However, this trend may be due to the drastic reduction in the volume of traffic during the period under review, due to the impact of COVID-19 pandemic. Three out of the five high risk categories of occurrences for the region (RE, RI, LOC-I) represented 100 per cent of the total number of accidents, 100 per cent of fatal accidents and 100 per cent of all fatalities between 2017 and 2021 for aircraft with maximum take-off mass of over 5700kg engaged in scheduled commercial flights. In these high-risk categories, 93 per cent of those accidents were related to Runway Excursion and Incursion, and the highest number of fatalities were related to LOC-I. This is due to the high energy involved in such accidents. No CFIT related accidents and fatalities were reported during the period 2017 – 2021. The RASG-AFI accident rate (involving scheduled commercial flights on aeroplanes with maximum certificated take-off mass over 5,700 Kg) at the end of 2022 was 7.01 per million departures compared to the world rate of 2.16. CFIT and LOC-I related Accidents and serious Incidents remain at a rate of zero (0) accident per million sectors from 2020 to 2022.

1.5.6 The RASG-AFI region registered a slow SSP implementation rate, with only one State having implemented an effective SSP by 2022. In line with Goal 3 of the GASP, the project implementation approach was revised to assist RASG-AFI States to implement SSP through a phased approach with an initial focus on the implementation of the foundation of an SSP and then progress into the implementation of an effective SSP. Under the project, assistance to States delivered by the ICAO Regional Offices included the review of SSP Foundation Protocol Questions (PQs), conduct of SSP Gap Analyses, development of SSP Implementation Plans and the conduct of State self-assessment using the SSP Implementation Assessment (SSPIA) PQs.

1.5.7 Common organizational challenges in the RASG-AFI region include:

a) The lack of political will in some States impede the full implementation of the Regional Offices' work programmes – low level of commitment in implementing regional groups' conclusions and decisions (APIRG and RASG-AFI).
b) The political/security situation in some States impede the provision of required technical assistance, implementation of regional projects and the achievement of the regional safety, air navigation and security targets.
c) The lack of adequate financial and human resources in some States affect the level of effective implementation (EI) of the critical elements (CEs) of a State's safety oversight system and SARPs; as well as attendance at the regional groups' activities or activities organized by the

ICAO Regional Offices.

d) Lack of States' contribution of data or information to the RASG-AFI Annual Safety Report.
e) Low number of States that have developed their national aviation safety plans (NASPs).
f) Low response rate of States to ICAO State Letters; and

Chapter 2. PURPOSE OF RASG-AFI's REGIONAL AVIATION SAFETY PLAN (AFI-RASP)

The AFI-RASP is the master planning document containing the strategic direction of the RASG-AFI region for the management of aviation safety for a period of three years (from 2023 to 2025). This plan lists regional safety issues, sets regional aviation safety goals and targets, and presents a series of safety enhancement initiatives (SEIs) to address identified safety deficiencies and achieve the regional safety goals and targets.

The AFI-RASP addresses safety management from a regional perspective and includes several SEIs to address specific operational safety risks and recommended SEIs for individual States in the region. It is expected that States in the region adopt these SEIs and include them in their respective national aviation safety plans (NASP).

The AFI-RASP has been developed using international safety goals and targets and G-HRCs from the ICAO GASP (www.icao.int/gasp). These are highlighted in the text, where applicable. The SEIs listed in the AFI-RASP support the improvement of safety at the individual State level, for States in the region, and contribute to the enhancement of safety at the wider international level. All stakeholders are encouraged to support and implement the AFI-RASP as the regional strategy for the continuous improvement of aviation safety.

Chapter 3. RASG-AFI'S STRATEGIC APPROACH TO MANAGING AVIATION SAFETY

The RASP presents the SEIs that were developed based on the ICAO GASP's organizational challenges (ORG) roadmap and operational safety risks (OPS) roadmap as well as region-specific issues identified by RASG-AFI members States and partners as well as others aviation stakeholders beyond RASG-AFI. This plan is developed and maintained by RASG-AFI, in particular the Safety Support Teams (SSTs), in coordination with all stakeholders and is updated at least every three years.

The AFI-RASP includes the following regional safety goals and targets, for the management of aviation safety, as well as a series of indicators to monitor the progress made towards their achievement. They are tied to the goals, targets and indicators listed in the 2023-2025 Edition of the GASP and include additional regional safety goals, targets and indicators.

Table-1: AFI-RASP goals, targets and indicators

Goal	*Targe*	*Indicators*	*Link to GASP*
Goal 1: Achieve a continuous reduction of operational safety risks	**1.1** Maintain a decreasing trend of regional accident rate.	1.1.1 Number of accidents per million departures (accident rate) 1.1.2 Number of fatal accidents per million departures (fatal accident rate) 1.1.3 Percentage of occurrences related to regional high-risk categories (R-HRCs) 1.1.4 Percentage of International airports with established Runway Safety Teams (RSTs) 1.1.5 Number of AIRPROX Occurrences recorded.	*This goal is directly linked to Goal 1 and Target 1.1 of the GASP.*
Goal 2: Strengthen States' safety oversight capabilities	**2.1** 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 EI score b) by 2026 – 85 per cent EI score c) by 2030 – 95	**2.1.1** Number of States that met the EI score as per the timelines **2.1.2** Percentage of required CAPs submitted by States to ICAO via the online framework (OLF) **2.1.3** Percentage of PQ State self-assessment completed (using OLF) **2.1.4** Number of States that have fully implemented the PPQ	*This goal is linked to Goal 2 and Target 2.1 of the GASP*

Goal	*Targe*	*Indicators*	*Link to GASP*
	per cent EI score		
Goal 3: Implement effective State safety programmes (SSPs)	**3.1** By 2024, all States to implement the foundation of an SSP.	**3.1.1** Number of States having implemented the applicable SSP foundation PQs **3.1.2** Percentage of required CAPs related to the SSP foundation PQs submitted per State (using OLF)	*This goal is directly linked to Goal 3 and Target 3.1 of the GASP*
	3.2 By 2024, all States to publish a national aviation safety plan (NASP).	3.2.1 Number of States having published their NASP	*This goal is directly linked to Goal 3 and Target 3.2 of the GASP*
	3.3 All States to work towards an effective SSP as follows: a) by 2025 – Present[4] b) by 2028 – Present and effective	3.3.1 Number of States having an SSP that is present (using iSTARS) 3.3.2 Number of States having an SSP that is present and effective (using iSTARS) 3.3.3 Number of States that require applicable service providers under their authority to implement an SMS 3.3.4 Percentage of applicable service providers that have fully implemented SMS per State.	*This goal is linked to Goal 3 and Target 3.3 of the GASP*
Goal 4: Increase collaboration at the regional level	4.1 By 2023, States that do not expect to meet AFI-RASP Goals 2 and 3 to seek assistance to strengthen their safety oversight capabilities or facilitate SSP implementation.	4.1.1 Number of States seeking assistance, by using a regional safety oversight mechanism, another State's or other safety oversight organization's ICAO-recognized functions 4.1.2 Number of States that have published their NASPs and registered on the ICAO NASP Online Community.	*This goal is linked to Goal 4 and Target 4.1 of the GASP*
	4.2 By 2025, all States to contribute information on operational safety risks, including SSP safety performance	4.2.1 Number of States registered on the Secure Portal on Operational Safety Risks and Emerging Issues 4.2.2 Number of reports received via the Secure Portal on Operational Safety Risks and Emerging Issues and validated.	*This goal is directly linked to Goal 4 and Target 4.3 of the GASP*

[4] The terms "present" and "present and effective" are based on the maturity levels established in the ICAO SSP Implementation Assessment (SSPIA)

Goal	*Targe*	*Indicators*	*Link to GASP*
	indicators (SPIs), and emerging issues, to RASG-AFI.	4.2.3 Number of States that are sharing their SSP SPIs with RASG-AFI 4.2.4 Number of studies/analyses conducted by RASG-AFI based on reports received via Secure Portal on Operational Safety Risks and Emerging Issues 4.2.5 Percentage of safety enhancement initiatives completed by RASG-AFI on safety risk management	
Goal 5: Expand the use of industry programmes and safety information sharing networks by service providers	5.1 Maintain an increasing trend in industry's contribution in safety information sharing networks to States and the region to assist in the development of NASPs and AFI-RASP.	5.1.1 Percentage of service providers participating in the corresponding ICAO-recognized industry assessment programmes 5.1.2 Number of States having established safety data collection and processing systems (SDCPS) to facilitate participation in a safety information-sharing network 5.1.3 Number of service providers contributing to an SDCPS or a safety information sharing network 5.1.4 Number of meetings and workshops conducted for sensitization on AFI -RASP	*This goal is linked to Goal 5 and Target 5.1 of the GASP*
Goal 6: Ensure the appropriate infrastructure is available to support safe operations	6.1 By 2025, maintain an increasing trend of States with air navigation and aerodrome infrastructure that meet relevant ICAO Standards.	6.1.1 Number or percentage of infrastructure-related air navigation deficiencies by State, against the AFI eANP. 6.1.2 Number or percentage of States having implemented infrastructure-related PQs linked to the basic building blocks	*This goal is directly linked to Goal 6 and Target 6.1 of the GASP*

The SEIs in this plan are implemented through the working arrangements of the RASG-AFI, activities conducted by Member States, international and regional organizations and industry, as well as the existing safety oversight capabilities and service providers' safety management systems (SMS) at the individual States' level. SEIs derived from the ICAO global aviation safety roadmap were identified to achieve the regional safety goals and targets presented in the AFI-RASP. Some of the regional SEIs are linked to overarching SEIs at the international level and help to enhance aviation safety at regional and global levels. The full list of the SEIs is presented in **Appendices 1** and **2** to this AFI-RASP.

The AFI-RASP also addresses emerging issues. Emerging issues include concepts of operations, technologies, public policies, business models or ideas that might impact safety in the future, for which insufficient data exists to complete typical data-driven analysis. It is important that RASG-AFI remain vigilant on emerging issues to identify potential operational safety risks, collect relevant data and proactively develop mitigations to address them. The AFI-RASP addresses the following emerging issues, which were adopted by RASG-AFI for further analysis:

1) Operation of RPAS within the vicinity of aerodromes;
2) Frequency interference, in particular the use of 5G telecommunication system, especially within the vicinity of aerodromes;
3) Laser strikes/attacks;
4) The use of wind turbines for wind farming in the vicinity of aerodromes;
5) Cyber security;
6) The installation of solar farms in the vicinity of aerodromes. Note: Issue of glare and glint to ATC and pilots.
7) Public health issues, e.g. Ebola, COVID19 etc
8) skilled workforce shortages
9) infrastructure limitations
10) traffic patterns
11) political instability
12) environmental impact

Safety Enhancement Initiatives (SEIs) —

ORGANIZATIONAL CHALLENGES (ORG) ROADMAP

1. STATES

1.1 Component 1— State safety oversight system

*1.1.1 **Phase 1—Establishment of a safety oversight framework (CE-1 to CE-5)***

SEI-1 — Consistent implementation of ICAO SARPs at the national level

SEI-2 — Development of a comprehensive regulatory oversight framework

SEI-3 — Establishment of an independent accident and incident investigation authority

SEI-4 — Strategic allocation of resources to enable effective safety oversight

SEI-5 — Qualified technical personnel to support effective safety oversight

SEI-6 — Strategic collaboration with key aviation stakeholders to enhance safety in a coordinated manner

SEI-7 — Provision of the primary source of safety information to ICAO by completing, submitting and updating all relevant documents and records

*1.1.2 **Phase 2—Implementation of a safety oversight system (CE-6 to CE-8)***

SEI-8 — Consistent implementation of ICAO SARPs at the national level

SEI-9 — Continued implementation of and compliance with ICAO SARPs at the national level

SEI-10 — Strategic allocation of resources to enable effective safety oversight

SEI-11 — Strategic collaboration with key aviation stakeholders to enhance safety in a coordinated manner

SEI-12 — Continued provision of the primary source of safety information to ICAO by updating all relevant documents and records as progress is made.

1.2 Component 2— State Safety Programme (SSP)

SEI-13 — Start of SSP implementation at the national level

SEI-14 — Strategic allocation of resources to start SSP implementation

SEI-16 — Strategic collaboration with key aviation stakeholders to complete SSP implementation

SEI-17 — Establishment of safety risk management at the national level (step 1)

SEI-18 — Establishment of safety risk management at the national level (step 2)

SEI-19 — Acquisition of resources to increase the proactive use of risk modelling capabilities

SEI-20 — Strategic collaboration with key aviation stakeholders to support the proactive use of risk modelling capabilities

SEI-21 — Advancement of safety risk management at the national level

2. REGIONS

2.1 Component 1 — State safety oversight system

*2.1.1 **Phase 1 — Establishment of a safety oversight framework (CE-1 to CE-5)***

SEI-1 — Consistent implementation of ICAO SARPs at the regional level

SEI-2 — Establishment of an independent regional accident and incident investigation process, consistent with Annex 13 — Aircraft Accident and Incident Investigation

SEI-3 — Regional safety enhancement initiatives to support consistent coordination of regional programmes in establishing adequate safety oversight capabilities

SEI-4 — Strategic collaboration with key aviation stakeholders to enhance safety in a coordinated manner

SEI-5 — Provision of the regional safety information to ICAO by asking States to complete, submit and update all relevant documents and records

*2.1.2 **Phase 2 — Implementation of a safety oversight system (CE-6 to CE-8)***

SEI-6 — Continued implementation of and compliance with ICAO SARPs at the regional level

SEI-7 — Regional safety enhancement initiatives to support consistent coordination of regional programmes in implementing adequate safety oversight capabilities

SEI-8 — Strategic collaboration with key aviation stakeholders to enhance safety in a coordinated manner

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

2.2 Component 2 — State safety programme

SEI-10 — Start of promotion of SSP implementation at the regional level

SEI-11 — Regional safety enhancement initiatives to support consistent coordination of regional programmes for SSP implementation

SEI-12 — Strategic collaboration with key aviation stakeholders to support SSP implementation

SEI-13 — Availability of safety data and safety information to support safety management activities at the regional level

SEI-14 — Regional allocation of resources to support continued development of the proactive use of risk modelling capabilities

SEI-15 — Regional collaboration with key aviation stakeholders to support the proactive use of risk modelling

SEI-16 — Advancement of safety risk management at the regional level

SEI-17 - Ensure training and capacity building of key personnel in the implementation and maintenance of the SSP/SMS at the Regional level.

3. INDUSTRY

3.1 Component 1 — STATE SAFETY OVERSIGHT SYSTEM

*3.1.1 **Phase 1 — Establishment of a safety oversight framework (CE-1 to CE-5)***

SEI-1 — Strategic collaboration with key aviation stakeholders to enhance safety in a coordinated manner

*3.1.2 **Phase 2 — Implementation of a safety oversight system (CE-6 to CE-8)***

SEI-2 — Improvement of industry compliance with applicable regulations

SEI-3 — Allocation of industry resources to enable effective safety oversight

SEI-4 — Strategic collaboration with key aviation stakeholders to enhance safety in a coordinated manner

3.2 Component 2 — STATE SAFETY PROGRAMME (SSP)

SEI-5 — Improvement of industry compliance with applicable SMS requirements

SEI-6 — Resources for service providers to effectively implement SMS

SEI-7 — Strategic collaboration with key aviation stakeholders to complete SSP implementation

SEI-8 — Establishment of safety risk management at the service provider level (step 1)

SEI-9 — Establishment of safety risk management at the service provider level (step 2)

SEI-10 — Allocation of industry resources to support continuous improvement of SSP and SMS

SEI-11 — Strategic collaboration with key aviation stakeholders to support the proactive use of risk modelling capabilities

SEI-12 — Advancement of safety risk management at the service provider level

Chapter 4. REGIONAL OPERATIONAL SAFETY RISKS

4.1 The AFI-RASP includes SEIs that address regional operational safety risks, derived from lessons learned from operational occurrences and from a data-driven approach. These SEIs include actions such as: policy development, targeted safety activities, safety data analysis, safety risk assessments, and safety promotion.

4.2 The RASG-AFI Annual Safety Report Team (ASRT), a Contributory Body of the RASG-AFI, publishes an Annual Safety Report. Limited hard copies of the report are printed and the electronic copy is available in PDF format, on the ICAO Eastern and Southern African Regional Office website: http://www.icao.int/esaf/Pages/default.aspx. and the Western and Central African Regional Office website: http://www.icao.int/wacaf/Pages/default.aspx.

4.3 The summary of accidents that occurred in the RASG-AFI region involving scheduled commercial flights on aeroplanes with maximum certificated take-off mass over 5,700 Kg, accident rate and number of fatalities for the ten-year period (from 2013 to 2022) are shown in the table below.

Table-2: Air transport occurrences in the RASG-AFI region involving scheduled commercial flights on aeroplanes with maximum certificated take-off mass over 5,700 Kg

Year	Departures	Number of accidents	Accident rate (per million departures)	Number of fatalities
2013	730K	7	9.62	33
2014	752.6 K	8	10.6	116
2015	810K	6	6.18	8
2016	851 K	7	8.23	1
2017	925 K	7	7.56	0
2018	969.9 K	5	5.16	20
2019	974.4K	10	10.34	183
2020	549K	2	3.64	0
2021	652K	1	1.53	0
2022	970K	6	7.01	24

4.4 The accident rate in the RASG-AFI Region has been fluctuating over the ten-year period (2013-2022), but remained above the world average. Due to the relatively low traffic volume, compared to the other world regions, any one occurrence will result in a high accident rate.

4.5 The ten-year average accident rate (from 2013 to 2022) was 5.646, which was above the global average rate of 1.55 for the same period. The RASG-AFI region had no fatal accidents in 2017, 2020 and 2021. However, fatal accidents occurred in 2018 and 2019 resulting in 203 total fatalities.

4.6 There was a positive trend in traffic volume which showed an increase from 549 thousand in 2020 to 970 thousand departures in 2022 for the RASG-AFI Region, which surpassed the pre-COVID-19 figures - an indication of aviation recovery from the negative impact of the pandemic.

4.7 The following five regional high risk categories of occurrences (R-HRCs), in no particular order of priority, in the RASG-AFI regional context were considered of the utmost priority because of the number of fatalities and risk of fatalities associated with such events. They were identified based on analysis from mandatory and voluntary reporting systems, accident and incident investigation reports, safety oversight activities conducted by States in the region over the past ten years (from 2013 to 2022) and their respective State safety programmes, as well as on the basis of regional analysis conducted by the RASG-AFI, RSOOs, RAIO and APIRG and on the operational safety risks described in the GASP. These R-HRCs (listed in no particular order) are in line with those listed in the 2023-2025 edition of the GASP (G-HRCs):

1. Controlled Flight into Terrain (CFIT);
2. Loss of Control In-Flight (LOC-I);
3. Mid-Air Collision (MAC);
4. Runway Excursion (RE);
5. Runway Incursion (RI);

4.8 In addition to the regional operational safety risks listed above, the following additional categories of operational safety risks have been identified:

1. System Component Failure/Malfunction – Non-Powerplant (SCF-NP);
2. Bird Strikes and Wildlife Hazard;
3. Dust Haze;
4. Large Height Deviation (LHD).

4.9 The aviation occurrence categories from the CAST/ICAO Common Taxonomy Team (CICTT) were used to assess risk categories in the process of determining regional operational safety risks. The CICTT Taxonomy is found on the ICAO website at https://www.icao.int/safety/airnavigation/AIG/Pages/Taxonomy.aspx

4.10 To address the regional operational safety risks listed above, RASG-AFI identified the following contributing factors leading to R-HRCs and the Safety Support Teams will implement a series of SEIs, some of which are derived from the ICAO OPS roadmap, contained in the GASP:

4.10.1 **R-HRC 1: Controlled Flight into Terrain (CFIT)**

Controlled Flight Into Terrain is a situation where a properly functioning aircraft under the control of a fully qualified and certificated crew is flown into terrain with no apparent awareness on the part of the crew. Although no CFIT related accidents and fatalities were reported for the RASG-AFI region during the period 2017 – 2021, there should not be any complacency in putting it under the safety radar, as it continues to be a global HRC. The following factors, although not exhaustive, could contribute to CFIT occurrence:

1) Non-stabilised approach;
2) Lack of situational awareness;
3) Inadequate or non-compliance to standard operating procedures (SOPs);
4) The choice of non-precision over precision approaches for landing;
5) Inadequate training programme, including crew resource management (CRM);
6) Weather and runway conditions (contaminated runway);
7) Outdated Electronic Terrain and Obstacle Data (eTOD).

4.10.2 **R-HRC 2: Loss of Control In-Flight (LOC-I)**

Aircraft upset or loss of control in-flight has registered the highest number of fatalities in the RASG-AFI region during the period: 2017 - 2021. This is due to the high energy involved in such accidents. 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. The following factors, although not exhaustive, could contribute to LOC-I occurrence;

1) Lack of proper training in UPRT
2) Adverse weather
3) Inappropriate flight control inputs in response to a sudden awareness of an abnormal blank angle
4) Aircraft malfunction
5) Flight crew errors (Inadequate use of SOPs)

4.10.3 **R-HRC 3: Mid-Air Collision (MAC)**

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 aeroplane mid-air collision accidents in recent years within the airspace of the RASG-AFI region, scenarios have been reported that constituted potential mid-air collision. Concerns over this key risk area has been raised by some RASG-AFI States specifically in the context of collision risk posed by aircraft operating within the airspace around the horn of Africa, 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. The following factors, although not exhaustive, could contribute to MAC occurrence:

1) Human Factors: Situational Awareness, Operational workload, Discipline, Stress, Communication etc
2) Technology: Technical Equipment Failures, inadequate or non-availability of required technology, un-reliable systems.
3) Coordination Failures
4) Airspace structure: capacity, weather, organisation of sectors, etc
5) Procedures: Non-compliance, in-correct application of, none or inadequate procedures.
6) Organisational: staffing, training, policies, supervision etc

The full list of the SEIs is presented in Appendices 1 and 2 to the AFI-RASP.

4.10.4 **R-HRC 4: Runway Excursion (RE)**

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. 31.1 per cent of accidents in the RASG-AFI region during the period: 2013–2022, were related to Runway Safety (i.e. Runway Excursions and Incursions). The following factors, although not exhaustive, could contribute to RE occurrence:

1) Runway contaminated with water with no information on extent to pilots.
2) Non-implementation of a harmonised methodology for assessment and reporting of Runway Surface conditions.
3) Organizational issues such as training, procedures, etc.

4.10.5 **R-HRC 5: Runway Incursion (RI)**

A Runway Incursion refers to the incorrect presence of an aircraft, vehicle or person on an active runway or in its areas of protection; the accident outcome is runway collisions. The risk of the reported occurrence of runway incursions in the region demonstrated to be real. The RASG-AFI States should provide further data analysis regarding runway incursion to identify the root causes and associated safety issues. The following factors, although not exhaustive, could contribute to RI occurrence:

1) Insufficient or lack of communication between pilots and ATC
2) Lack of awareness on Runway Safety.
3) Organizational issues such as training, Inactive Runway Safety teams, etc.
4) Lack of proper visual aids
5) inadequacy or lack of procedures on runway occupancy

4.11 Emerging Issues

4.11.1 Emerging issues include concepts of operations, technologies, public policies, business models or ideas that might impact safety in the future, for which insufficient data exists to complete typical data-driven analysis. Due to the lack of data, emerging issues cannot automatically be considered as operational safety risks. It is important that the international aviation community remain vigilant on emerging issues to identify hazards, collect relevant data and proactively develop mitigations to address any associated risks. The management of emerging issues, particularly by mitigating safety risks, can provide opportunities to foster innovation. The use of new technologies, procedures and operations should therefore be encouraged.

4.11.2 ICAO developed a dedicated site on its secure portal to collect information from States, regional and international organizations on emerging issues and operational safety risks, thereby contributing to the improvement of safety by facilitating the sharing and exchange of safety information. Stakeholders are requested to provide information on a regular basis and the information collected also serves to guide future editions of the GASP and AFI-RASP. Details on how regional entities and other stakeholders may use this information for regional and national aviation safety planning is found on the ICAO website at https://www.icao.int/safety/GASP/Pages/Secure-Portal.aspx.

4.12 Disruptive Events

4.12.1 A disruption event is a rare yet very significant event at a global, regional or national level, which adversely impacts aviation activities. Disruption events affect States, including safety and security authorities, as well as aircraft operators, operators of aerodromes, ATS providers, and industries dependent on aviation.

4.12.2 Disruption events are not typically aviation-centric but have significant impact on aviation operations. States should develop measures to respond effectively to disruption events to maintain a safe, resilient and sustainable level of operations. These include the management of change, communication and coordination plans with all relevant stakeholders at the national, regional and international levels.

4.12.3 The nature of disruption events, such as the recent COVID-19 pandemic and Ebola, can vary in complexity, scope, and duration and may affect the identification of hazards and management of safety risks. Recovery from a disruption event may also affect the operational safety risks. To the extent practicable, States should share and communicate hazards that may develop into disruption events. States and regions may also consider applying changes to safety plans in accordance with risk analyses. The policies, processes and mechanisms implemented for the SSP should support the management of disruption events.

4.12.4 To the extent practicable, States and regions should also establish a mechanism and measures to share, communicate and collaborate on effective mitigation measures and efforts to support safe resumption of operations following a disruption event.

4.12.5 Detailed guidance related to the management of the COVID-19 pandemic, aviation restart and recovery, and building resilience can be found on the ICAO website at https://www.icao.int/covid/cart/Pages/default.aspx.

4.12.6 Communicable diseases can have significant impact on aviation safety due to their potential to spread rapidly and affect both passengers and aircrew. RASG-AFI Member States should develop and implement mechanism for managing the risks associated with communicable diseases in the aviation sector.

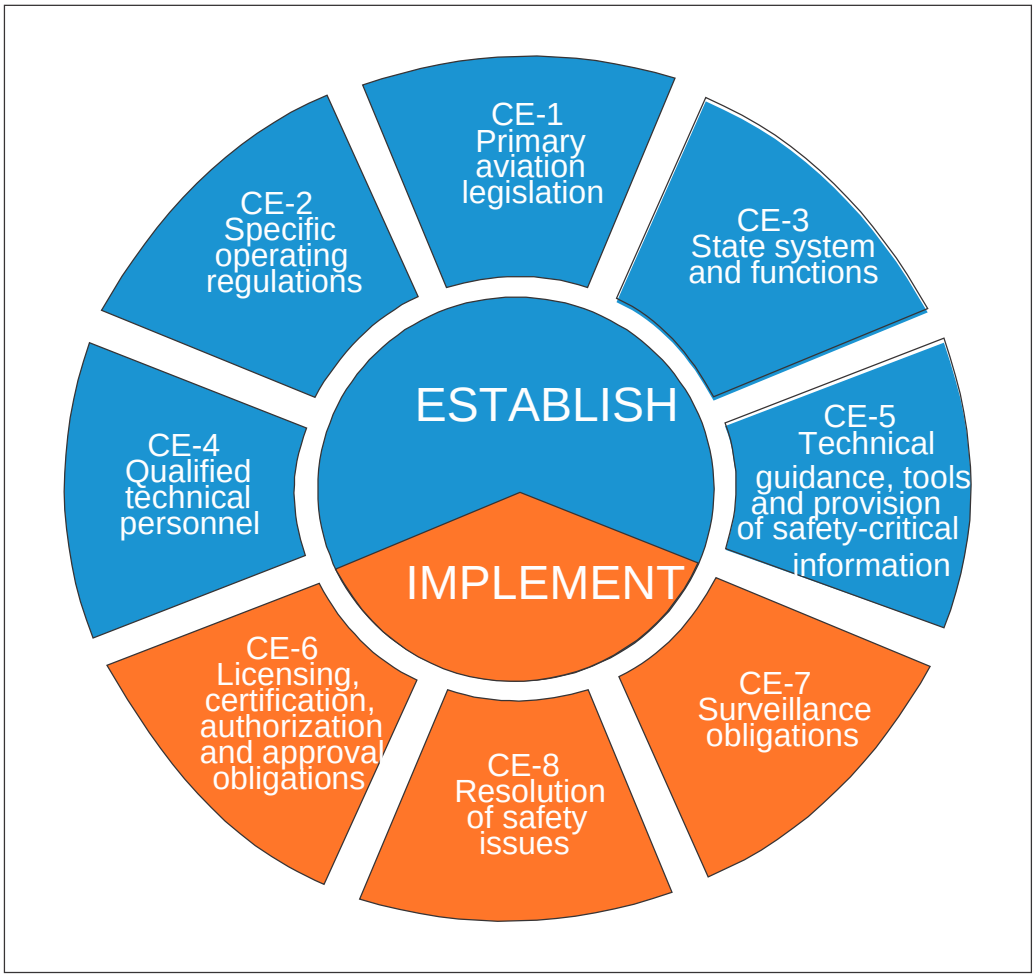
Chapter 5. REGIONAL ORGANIZATIONAL CHALLENGES

In addition to the regional operational safety risks listed in the AFI-RASP, The RASG-AFI Annual Safety Report Team (ASRT) has identified regional organizational challenges and initiatives selected for the AFI-RASP. These are given priority in the AFI-RASP since they are aimed at enhancing and strengthening the management of aviation safety at the regional level.

The eight critical elements (CEs) of a safety oversight system are defined by ICAO. The RASG-AFI is committed to the effective implementation of these eight CEs among all States in the region, as part of its overall safety oversight responsibilities, which emphasize RASG-AFI's commitment to safety in respect of its aviation activities. The eight CEs are presented in Figure 3 below.

Certain deficiencies in a specific CE of a safety oversight system are common to the majority of States in the region and considered a top concern. These deficiencies are addressed as a safety issue in the AFI-RASP because of their impact on the ability of States to fulfil their safety oversight responsibilities, which impacts the region as a whole.

Figure 3: Critical elements of a State's safety oversight system



The latest ICAO activities, which aim to measure the effective implementation of the eight CEs of States' individual safety oversight systems, as part of the ICAO Universal Safety Oversight Audit Programme (USOAP), have resulted in the following scores, compiled as an average for the RASG-AFI region as a whole:

Table 3: Overall EI score and EI score by CE[1] for RASG-AFI

Overall EI score for RASG-AFI							
57.11% (31 December 2022)							
EI score by CE[1] for RASG-AFI							
CE-1	**CE-2**	**CE-3**	**CE-4**	**CE-5**	**CE-6**	**CE-7**	**CE-8**
75.43 %	72.10 %	62.77 %	54.90 %	61.87 %	55.89 %	43.13 %	32.09 %
EI score by audit area[2] for RASG-AFI							
LEG	**ORG**	**PEL**	**OPS**	**AIR**	**AIG**	**ANS**	**AGA**
74.74 %	66.92 %	60.45 %	57.86 %	77.34 %	42.86 %	53.01 %	47.22 %

The following two other safety issues in the RASG-AFI context were considered of the utmost priority because they are systemic issues which impact the effectiveness of safety risk controls. They were identified based on analysis from USOAP data, accident and incident investigation reports, safety oversight activities over the past eight years from States in the region, their State safety programmes, as well as on the basis of regional analysis conducted by the RASG-AFI Annual Safety Report Team. These issues are typically organizational in nature and relate to challenges associated with the conduct of States' safety oversight functions, implementation of SSP at the regional level, and the level of SMS implementation by industry in the region. They take into consideration organizational culture, policies and procedures within the civil aviation authorities, regional safety oversight organisations, aircraft accidents and incidents investigation authorities, and those of service providers. These safety issues are in line with those listed in the 2023-2025 edition of the GASP:

1) Lack of sufficient number of qualified and experienced technical personnel to carry out safety oversight functions at the regional level.
2) Lack of aircraft accident and incident investigation capabilities at the regional level. This was the area where States in the region received the lowest EI score during the most recent ICAO USOAP audits and was therefore placed as a high priority issue to resolve.

To address the issues listed above, the SSTs will implement a series of SEIs, some of which are derived from the ICAO ORG roadmap, contained in the GASP. The full list of the SEIs is presented in **Appendix 1** to the RASP.

[1] Eight critical elements (CEs) of a State's safety oversight systems, i.e. primary aviation legislation (CE-1); specific operating regulations (CE-2); State system and functions (CE-3); Qualified Technical Personnel (CE-4); Technical Guidance, Tools, and provision of safety-critical information (CE-5); Licensing, certification, authorisation and approval obligations (CE-6); Surveillance obligations (CE-7); Resolution of safety issues (CE-8).

[2] Eight audit areas pertaining to 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).

PART-II. IMPLEMENTATION AND MONITORING

Chapter 6. REGIONAL AVIATION SAFETY ROADMAP

6.1 STRUCTURE OF THE ROADMAP

6.1.1 The regional aviation safety roadmap outlines specific SEIs associated with the AFI-RASP goals and targets, as well as the R-HRCs. Each SEI is supported by a set of actions. The roadmap includes specific SEIs directed to three different sets of stakeholders: individual States; regions; and industry. Successful achievement of the SEIs found in the roadmap relies upon the close collaboration and cooperation of all key aviation stakeholders. Key aviation stakeholders include, but are not limited to, ICAO, States, Regional Aviation Safety Group for Africa-Indian Ocean (RASG-AFI), regional safety oversight organizations (RSOOs), regional accident and incident investigation organizations (RAIOs), Cooperative Development of Operational Safety and Continuing Airworthiness Programmes (COSCAPs) and industry. The planning and implementation regional group for Africa-Indian Ocean (APIRG) also play a key role, coordinating with the RASG-AFI.

Note 1.– In the context of the AFI-RASP and the roadmap, the term "region" refers to a group of States and/or entities working together to enhance safety within a geographic area.

Note 2.– In the context of the AFI-RASP and the roadmap, the term "industry" refers to service providers, such as: operators of aeroplanes or helicopters; approved maintenance organizations; organizations responsible for the type design or manufacture of aircraft, engines or propellers; approved training organizations; air traffic services (ATS) providers; and operators of aerodromes, as well as non-governmental organizations (e.g. international organizations) and other entities that form part of the aviation industry, as appropriate.

6.1.2 The regional aviation safety roadmap is composed of two parts:

a) O*rganizational challenges.* This part of the roadmap (referred to as the ORG roadmap, presented in Appendix A) provides SEIs to meet AFI-RASP goals (and associated targets) related to States' safety oversight capabilities and the implementation of State safety programmes (SSPs), as well as industry's implementation of SMS, and contains two distinct components, in line with the AFI-RASP goals, to address safety management responsibilities:

1) State safety oversight system; and

2) SSP, including service providers' SMS.

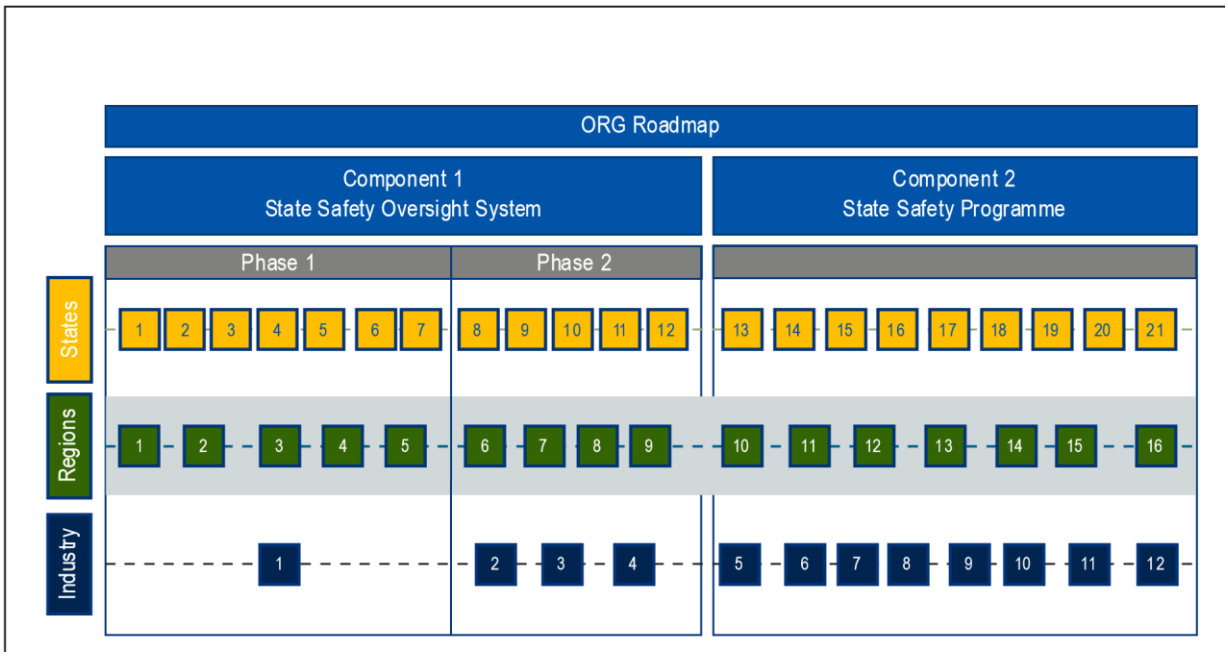
b) *Operational safety risks.* This part of the roadmap (referred to as the OPS roadmap, presented in Appendix B) provides SEIs to meet the AFI-RASP goal (and associated target) related to a continuous reduction of operational safety risks, as well as actions to address the R-HRCs presented in the AFI-RASP.

Note. — Although the roadmap does not contain SEIs to address emerging issues, these should be noted as part of the AFI-RASP or NASP. Additional guidance on emerging issues is presented in the GASP.

6.2 ORGANIZATIONAL CHALLENGES (ORG) ROADMAP

6.2.1 The ORG roadmap comprises two components to facilitate its use and is divided into three horizontal streams, each with specific SEIs aimed at States, regions and industry, as presented in Figure 4. The SEIs are laid out in a sequence and should be accomplished in chronological order. As stakeholders accomplish each SEI, represented by a numbered box in the diagram, they advance through the roadmap thus helping to achieve the different AFI-RASP goals. Each SEI has a number, which links it to a detailed description of the corresponding initiative, found in **Appendix 1**.

Figure 4. ORG roadmap diagram



6.2.2 The component of the roadmap related to a State safety oversight system is divided into two phases: Phase 1 focuses on the establishment of an effective safety oversight framework, as per critical elements (CEs) CE-1 to CE-5; and Phase 2 focuses on the implementation of an effective safety oversight system, as per CE-6 to CE-8. In each of the roadmap templates, CEs in parenthesis refer to the CE(s) which are addressed by a specific action.

6.2.3 States should have basic elements of Phases 1 and 2 in place to ensure effective safety oversight before pursuing the second component of safety management, which focuses on SSP and SMS implementation. However, some of the steps to implement an SSP may have been started in Component 1, as part of the establishment of an effective safety oversight system (i.e. the foundation of an SSP). Despite the breakdown of the roadmap into components, the SEIs should not be viewed as stand-alone activities. In many cases, they are interrelated and serve to meet several goals simultaneously. Therefore, the SEIs in the ORG roadmap may be linked to multiple AFI-RASP goals and targets. Appendix 1 provides tables listing the ORG roadmap SEIs and the GASP targets they support.

6.3 OPERATIONAL SAFETY RISKS (OPS) ROADMAP

6.3.1 The OPS roadmap addresses operational safety risks and is based on the R-HRCs identified in the AFI-RASP. It contains examples of specific SEIs to address each of the five R-HRCs: controlled flight into terrain; loss of control inflight; mid-air collision; runway excursion; and runway incursion. Unlike the ORG roadmap, the OPS roadmap is not divided into components or steps. SEIs can be accomplished in parallel. All the SEIs in the OPS roadmap contribute directly to the achievement of AFI-RASP Goal 1, which aims to achieve a continuous reduction of operational safety risks by targeting the R-HRCs. As such, unlike the ORG roadmap, there are no links to identify between the OPS roadmap SEIs and AFI-RASP targets.

6.3.2 The SEIs presented in the OPS roadmap should be implemented to mitigate the risks associated with the R-HRCs. The OPS roadmap identifies the SEIs for each R-HRC. This is not an exhaustive list. Stakeholders should conduct analyses of data and reports to validate the effectiveness of the implemented SEIs. In order to develop data collection and analysis capabilities, SSP and SMS should be implemented (refer to the SEIs in the ORG roadmap). Stakeholders can then derive contributing factors through data analysis. The OPS roadmap gives specific examples of potential contributing factors. These are not exhaustive and may not be applicable to all stakeholders or operational contexts. Based on the analysis, stakeholders may need to develop and implement further SEIs to mitigate any additional risks. Stakeholders should assess the effectiveness of the SEIs and may need to refine them in response to changes that may introduce new hazards. SEIs related to the R-HRCs or N-HRCs and other operational safety risks of a region or State should be included in the action plan that forms part of the RASP or NASP.

6.3.3 The OPS roadmap is not a substitute for the safety risk management activities that need to be conducted by individual States as part of their SSP and by service providers through their SMS. A safety management approach to targeting the N-HRCs or R-HRCs can result in successful mitigation strategies. Once the SSP and SMS are implemented in accordance with Annex 19 – Safety Management and have reached a certain maturity level in terms of safety data analysis, stakeholders can refine their SEIs in relation to the R-HRCs suitable to their operational context. The OPS roadmap is supported by the ORG roadmap component related to SSP and SMS, which enables safety risk management and safety assurance processes to be implemented. Appendix 2 provides tables listing the OPS roadmap SEIs and the AFI-RASP targets they support.

Chapter 7. MONITORING IMPLEMENTATION

The Steering Committee of the RASG-AFI (RASC) will continuously monitor the implementation of the SEIs listed in the AFI-RASP and measure safety performance of the regional civil aviation system, to ensure the intended results are achieved, using data from the ICAO USOAP CMA Online Framework, iSTARS, data from other partners; and the mechanisms presented in Appendix-4 to this plan; and provide comprehensive annual report on the status of implementation to the RASG-AFI.

In addition to the above, RASC will review the AFI-RASP every three years or earlier, if required, to keep the identified operational safety risks, safety issues and selected SEIs updated and relevant. The RASC will review the safety performance of the initiatives listed in the AFI-RASP annually to ensure the achievement of regional safety goals and targets. The RASC will seek the support of the SSTs to ensure the timely implementation of SEIs to address safety deficiencies and mitigate risks. Through close monitoring of the SEIs, the RASC will make adjustments to the AFI-RASP and its initiatives, if needed, and update it accordingly.

In addition, the RASC will use the indicators listed in Section 3 of this plan to measure safety performance of the civil aviation system and monitor each regional safety target. An annual safety report will be 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 the event that the regional safety goals and targets are not met, the causes will be addressed and presented to stakeholders. If the RASC identifies critical operational safety risks, reasonable measures will be taken to mitigate them as soon as practicable, possibly leading to an earlier revision of the AFI-RASP.

The RASC adopted a standardized approach to facilitate reporting of information from individual States and other stakeholders at the regional level, and to improve the provision of information to the RASG-AFI through performance reports provided by the SSTs, using a common monitoring tool, to the RASC every 6 months. This allows the region to receive information and assess operational safety risks using common methodologies.

Any questions regarding the AFI-RASP and its initiatives, and further requests for information, may be addressed to the following:

The RASG-AFI Secretariat
ICAO Regional Offices (ESAF/WACAF)
icaoesaf@icao.int/icaowacaf@icao.int
Tel: +254 020 7622 395 /+221 33 869 2424

Appendix-1:

ORGANIZATIONAL CHALLENGES (ORG) ROADMAP

PART 1. RASG-AFI REGION

COMPONENT 1 – STATE SAFETY OVERSIGHT SYSTEM							
PHASE 1 – ESTABLISHMENT OF A SAFETY OVERSIGHT FRAMEWORK (CE-1 TO CE-5)							
Goal 2: Strengthen States' safety oversight capabilities. **Target 2.1: 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 EI score; b) by 2026 – 85 per cent EI score; c) by 2030 – 95 per cent EI score.**							
Safety enhancement initiative	**Action**	**Timeline**	**Responsible entity**	**Stakeholders**	**Metrics/Indicators**	**Priority**	**Monitoring Activity**

G2-SEI-1 Consistent implementation of ICAO SARPs at the regional level.	1A – Assist States to address Significant Safety Concerns as a priority.	Continuous	States	ICAO AFCAC RSOOs RAIOs	• Number of SSCs resolved.	High	• Technical missions to States.
	1B – Address all protocol questions (PQs) of the USOAP Continuous Monitoring Approach (CMA)	Continuous	States	ICAO AFCAC RSOOs RAIOs	• Number of States that met the EI score as per the timelines for CE-1 • Number of States that have fully implemented the priority PQs	High	• USOAP activities, including audits, ICVMs, off-site validations, IVAs, CAP assessments, etc. • USOAP CMA OLF information and updates, including PQ self-assessments, CAPs, CC/EFOD and SAAQ.

	1C - Establish primary aviation law and regulations templates, to empower the competent authority to conduct regulatory oversight, this includes separation of oversight functions and service provision functions (CE-1 and CE-2).	Continuous	RSOOs/RAIOS	States ICAO AFCAC RSOOs RAIOs	• Number of States that met the EI score as per the timelines for CE-1 • Number of States that have fully implemented the priority PQs	Medium	• USOAP activities, including audits, ICVMs, off-site validations, IVAs, CAP assessments, etc. • USOAP CMA OLF information and updates, including PQ self-assessments, CAPs, CC/EFOD and SAAQ.
	1D - Conduct workshops to support States implement ICAO SARPs (CE-2) Conduct workshop to support States to implement ICAO SARPs (CE-2) Conduct workshop to support States to implement ICAO SARPs (CE-2)	Continuous	States	ICAO AFCAC RSOOs RAIOs	Percentage of ICAO SARPs implemented per State	High	• USOAP CMA OLF information on CC/EFOD

	□ 1E - Conduct workshops to support States establish a process for identification of differences with the ICAO SARPs (CE-2)	Continuous	States	ICAO AFCAC RSOOs RAIOs	Percentage of ICAO SARPs implemented per State	High	• USOAP CMA OLF information on CC/EFOD
G2-SEI-2 Establishment of an independent regional accident and incident investigation process, consistent with Annex 13 — Aircraft Accident and Incident Investigation	□ 2A – Identify champion States, via the RASGs, to assist in building the accident and incident investigation capabilities of States which require assistance (CE-3 to CE-4).	Continuous	States	ICAO AFCAC RSOOs RAIOs	Number of States provided assistance.	High	Technical missions to States.
	□ 2B – Provide resources for accident and incident investigation (including, but not limited to, personnel and technical support) to perform those functions which cannot be performed by the	Continuous	States	ICAO AFCAC RSOOs RAIOs	Number of personnel trained.	High	Technical missions to States.

	State acting on its own (see SEI-1A) (CE-3 and CE-4)						
G2-SEI-3 Regional safety enhancement initiatives to support consistent coordination of regional programmes in establishing adequate safety oversight capabilities	□ 3A – Identify resources that are available to support safety enhancement initiatives for States in the region (all CEs, emphasis on CE-1 to CE-5).	Continuous	States	ICAO AFCAC RSOOs RAIOs	Percentage of safety enhancement initiatives completed by RASG-AFI on safety risk management.	High	• RASC Reports. • Annual Safety Report
	□ 3B – Use the global aviation safety roadmap and RASG- and/or RSOO-specific analyses of relevant safety-critical information to determine regional safety issues and resources that can be used to assist States. Due to the scarce human and financial resources, any planned actions	Continuous	States	ICAO AFCAC RSOOs RAIOs	Number of States that have established a mechanism to collect and process data on operational safety risks and emerging issues.	Medium	Technical missions to States.

	should be targeted at those safety risks which can be sustainably addressed and have the highest impact in terms of improving safety (all CEs, emphasis on CE-1 to CE-5).						
	3C – Facilitate the provision of financial and technical assistance among regional resourced entities (RASG, RSOO, ICAO Regional Office, champion States, development banks, regional economic communities and other regional aid programmes) and give priority to States requiring assistance (in alignment with State SEI-4) (all CEs, emphasis on	Continuous	States	ICAO AFCAC RSOOs RAIOs	Number of States seeking assistance, by using a regional safety mechanism, other States', or other safety oversight organisations' ICAO-recognised functions.	Medium	Technical missions to States.

	CE-1 to CE-5). □ 3D – Strengthen existing RSOOs (CE-1 to CE-5)	Continuous	States	ICAO AFCAC RSOOs RAIOs	Number of States seeking assistance, by using a regional safety mechanism, other States', or other safety oversight organisations' ICAO-recognised functions.	High	Progress Reports.
G2-SEI-4 Strategic collaboration with key aviation stakeholders to enhance safety in a coordinated manner.	□ 4A – Based on the identified hazards and safety deficiencies, establish a mechanism to identify key aviation stakeholders and develop and execute an action plan for the resolution of those safety issues (CE-1 to CE-5).	Continuous	States	ICAO AFCAC RSOOs RAIOs	Percentage of hazards and safety deficiencies that have been resolved.	High	• Technical missions to States. • USOAP activities, including audits, ICVMs, off-site validations, IVAs, CAP assessments, etc. • USOAP CMA OLF information and updates, including PQ self-assessments, CAPs, CC/EFOD and SAAQ

	4B – Establish a process via RASG-AFI and/or RSOOs for a mentoring/collaboration system, including providing State/industry assistance as well as sharing of best practices and internal follow-up actions (CE-3).	Continuous	States	ICAO AFCAC RSOOs RAIOs	Number of mentoring/collaboration activities conducted.	Low	Progress Report
	4C – Collaborate with RASG-AFI and/or RSOOs, States, ICAO, industry joint programmes and/or technical school partnerships to attract, recruit and train qualified and sufficient technical personnel and develop a strategy for their retention (CE-4).	Continuous	States	ICAO AFCAC RSOOs RAIOs	Number of personnel trained.	High	Progress Report

	□ 4D – Establish and implement a process for the development and promulgation of technical guidance, tools and the provision of safety-critical information, in collaboration with States, RSOO, ICAO and/or other stakeholders, with the understanding that these materials need to be tailored to the national regulations and operational environment (CE-5) of each State.	Continuous		ICAO AFCAC RSOOs RAIOs	Process for the development and promulgation of technical guidance, tools and the provision of safety-critical information established and implemented.	Low	Progress Report
	□ 4E – While working to improve safety oversight, work with RASG-AFI and/or RSOOs to	Continuous	States	ICAO AFCAC RSOOs RAIOs	Number of joint activities conducted.	High	Technical missions to States.

	address regional high-risk categories of occurrences						
2-SEI-5 Provision of the regional safety information to ICAO by asking States to complete, submit and update all relevant documents and records	□ 5A – Assess if States in the region have provided the information in 5B to 5E to ICAO. □ 5B – Solicit States in the region to complete and submit their USOAP corrective action plans.	Continuous Continuous	ICAO ICAO	States AFCAC RSOOs RAIOs States AFCAC RSOOs RAIOs	Percentage of completed SAAQs, PQs, CAPs per State (using USOAP CMA OLF). Number of States that submitted their CAPs.	High High	USOAP CMA OLF information and updates, including PQ self-assessments, CAPs, CC/EFOD and SAAQ. • Technical missions to States. • USOAP CMA OLF information and updates on , CAPs.

	□ 5C – Solicit States in the region to complete and submit their self-assessment checklist based on USOAP CMA PQs	Continuous	ICAO	States AFCAC RSOOs RAIOs	Percentage of completed self-assessment per State (using USOAP CMA OLF)	High	USOAP CMA OLF information and updates, including PQ Self-assessment.
	□ 5D – Solicit States in the region to complete and submit their SAAQ	Continuous	ICAO	States AFCAC RSOOs RAIOs	Percentage of completed SAAQs per State (using USOAP CMA OLF)	High	USOAP CMA OLF information and updates, including SAAQs.
	□ 5E – Solicit States in the region to complete and submit their CCs on the EFOD system	Continuous	ICAO	States AFCAC RSOOs RAIOs	Percentage of completed CCs per State (using USOAP CMA OLF CC/EFOD).	High	USOAP CMA OLF information and updates, including CC/EFOD.
	□ 5F – Make use of the RASG-AFI, regional organizations or other regional fora to collect and share safety information, in	Continuous	ICAO	States AFCAC RSOOs RAIOs	Level of implementation of the ICAO SARPs determined at the regional level.	High	Regional Plans implementation reports.

	order to assess the level of implementation of ICAO SARPs at the regional level						
G2-SEI-6 Continued implementation of, and compliance with, ICAO SARPs at the regional level	6A – Increase the level of compliance with ICAO SARPs and the EI of CEs within the region (CE-6 to CE-8)	Continuous	States	ICAO AFCAC RSOOs RAIOs	• Number of States that met the EI score as per the timelines for CEs 6 to 8. • Number of States that have fully implemented the priority PQs	High	• Technical missions to States. • USOAP activities, including audits, ICVMs, off-site validations, IVAs, CAP assessments, etc. • USOAP CMA OLF information and updates, including PQ self-assessments, CAPs, CC/EFOD and SAAQ.
	6B – Work with States' competent authorities and their enforcement oversight processes, to address safety issues regarding foreign operators,	Continuous	States	ICAO AFCAC RSOOs RAIOs	Percentage of safety issues regarding foreign operators resolved.	High	Regional programmes implementation reports.

	in a timely manner (CE-6 to CE-8). □ 6C – Continue work on the regional high-risk categories of occurrences	Continuous	ICAO	States AFCAC RSOOs RAIOs Industry	Percentage of regional high-risk categories of occurrences addressed.	High	Regional programmes implementation reports.
G2-SEI-7 Regional safety enhancement initiatives to support consistent coordination of regional programmes in implementing adequate safety oversight capabilities	□ 7A – Identify resources that are available to support safety enhancement initiatives for States in the region (all CEs, emphasis on CE-6 to CE-8). □ 7B – Use the global aviation safety roadmap and regional analysis of relevant safety critical information to determine regional priorities and resources that can	Continuous Continuous	States States	ICAO AFCAC RSOOs RAIOs ICAO AFCAC RSOOs RAIOs	Number of Safety enhancement initiatives implemented. Number of regional priorities and resources that can be used to assist States.	High High	Progress reports. Regional programmes implementation reports.

	be used to assist States. Due to the scarce human and financial resources, any planned actions should be targeted at those safety risks which can be sustainably addressed and have the highest impact in terms of improving safety (all CEs, emphasis on CE-6 to CE-8).						
	7C – Facilitate the provision of financial and technical assistance among regional resourced entities (RASG, RSOO, ICAO Regional Office, champion States, development banks and other regional aid programmes) and give priority to States requiring	Continuous	States	ICAO AFCAC RSOOs RAIOs	Number of coordination meetings organised.	High	Progress reports.

	assistance, in alignment with SEI-10 (all CEs, emphasis on CE-6 to CE-8). □ 7D – Strengthen existing RSOOs, if necessary (CE-6 to CE-8)	Continuous	States	ICAO AFCAC RSOOs RAIOs	Number of States that met the EI score as per the timelines.	High	Technical assistance to States.
G2-SEI-8 Strategic collaboration with key aviation stakeholders to enhance safety in a coordinated manner	□ 8A – Based on the identified hazards and safety deficiencies, establish a mechanism to identify key aviation stakeholders and develop an action plan for the resolution of those safety issues (CE-6 to CE-8).	Continuous	States	ICAO AFCAC RSOOs RAIOs	Number of Safety issues resolved.	High	Progress reports.

	8B – Provide assistance via RASG-AFI and/or RSOOs to States for the conduct of surveillance activities (CE-7).	Continuous	States	ICAO AFCAC RSOOs RAIOs	Number of surveillance activities conducted.	Medium	Reports on surveillance activities.
	8C – Use technical guidance, tools and safety-critical information, developed in collaboration with States, RSOO, ICAO and/or other stakeholders, to assist in safety oversight functions (CE-6 to CE-8).	Continuous	States	ICAO AFCAC RSOOs RAIOs	Number of technical guidance, tools and safety-critical information, developed in collaboration with States, RSOO, ICAO and/or other stakeholders, to assist in safety oversight functions.	Low	Progress reports.
	8D – Resolve safety issues identified via accident and incident investigations, safety reports and other means (CE-8).	Continuous	States	ICAO AFCAC RSOOs RAIOs	Number of safety recommendations implemented.	High	Progress reports.

	8E – While working to improve safety oversight, continue to work with RASG-AFI and/or RSOOs to address regional high-risk categories of occurrences	Continuous	States	ICAO AFCAC RSOOs RAIOs	Number of States that have addressed regional high-risk categories of occurrences.	High	Monitoring the implementation of SEIs.
G2-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	Assess if States in the region have updated their primary source of safety information to ICAO.	Continuous	States	ICAO AFCAC RSOOs RAIOs	Number of States that have updated their primary source of safety information to ICAO.	High	Progress reports.
COMPONENT 2 –STATE SAFETY PROGRAMME (SSP)							
Goal 3 : Implement effective State safety programmes (SSPs) **Target 3.1 By 2023, all States to implement the foundation of an SSP** **Target 3.2 By 2024, all States to publish a national aviation safety plan (NASP)** **Target 3.3 All States to work towards an effective SSP as follows:** **a) by 2025 – Present**							

b) by 2028 – Present and effective

Safety enhancement initiative	*Action*	*Timeline*	*Responsible entity*	*Stakeholders*	*Metrics/Indicators*	*Priority*	*Monitoring Activity*
G3-SEI-1 Guide and support SSP implementation in the region	Support the SSP implementation through the implementation of AFI Plan SSP project ~~and other Regional~~ activities	2023-2025	ICAO (SSP-SST, SSO-SST), State SMEs	AFCAC RSOOs RAIO Industries	3.1.1- Number of States Assisted 3.1.3- Level of SSP Implementation for Assisted States	High	Progress report to the RASG -AFI/APIRG meetings
	Complete OLF CAPs related to the SSP foundational PQs and update the iSTARs GAP-Analysis	Mid 2024	States	ICAO AFCAC RSOOs RAIO Industries	% of Required CAPs related to the SSP foundational PQs submitted/completed by States (using OLF)	High	Progress report to the RASG -AFI/APIRG meetings
	Support the Implementation of NASP through iPacks and Workshops	2023-2024	ICAO (SSP-SST, SSO-SST and OSI-SST)	AFCAC RSOOs RAIO Industries	Number of States published a National Aviation safety Plan	High	Progress report to the RASG -AFI/APIRG meetings
	develop/amend the SMS regulations, SSP guidance materials and tools	2023-2025	States	ICAO (SSO -SST,SSP -SST) *AFCAC* *RSOOs* *RAIO*	SMS regulations, SSP guidance materials and tools	High	Progress report to the RASG -AFI/APIRG meetings

				Industries			
	Provide Assistance on the SMS acceptance (AED, AMO, ATOs, AOC) and reviewing SP Safety Risks	2023-2025	States RSOOs RAIO Industries	ICAO (OSI-SST) AFCAC	% of States Assisted on the SMS acceptance	High	Progress report to the RASG -AFI/APIRG meetings
G3-SEI-2 Facilitate capacity building activities through training, seminars and workshops in partnership with States/ industry/RSOOs/RAIOs	Conduct workshop on validation of SSP implementation/ documentations and tools	2023-2024	ICAO (SSP-SST) State SME	States AFCAC RSOOs RAIO Industries	Number of States participated in the capacity building activities	High	Progress report to the RASG -AFI/APIRG meetings
	Provide training on Safety Risk Based Surveillance (SRBS)	*2023-2025*	*States*	*ICAO (SSP-SST)* *AFCAC* *RSOOs* *RAIO* *Industries*	Number of States participated in the capacity building activities	High	Progress report to the RASG -AFI/APIRG meetings
	Provide training on SMS acceptance , monitoring and reviewing SP Safety Risks	*2023-2025*	*States*	*ICAO (SSP-SST)* *AFCAC* *RSOOs* *RAIO* *Industries*	Number of States participated in the capacity building activities	High	Progress report to the RASG -AFI/APIRG meetings
	Provide training on SSP	*2023-2025*	*States*	*ICAO (SSP-SST)* *AFCAC* *RSOOs* *RAIO*	Number of States participated in the capacity building activities	High	Progress report to the RASG -AFI/APIRG meetings

				Industries			
	Provide Aviation Data-driven Decision Making (AD3M) - Part 1 and 2 training	*2023-2025*	*States*	*ICAO (SSP-SST)* *AFCAC* *RSOOs* *RAIO* *Industries*	Number of States participated in the capacity building activities	High	Progress report to the RASG -AFI/APIRG meetings
	Provide training/awarenes s to CAA staff and other stakeholders on safety data and safety information governance process	*2023-2025*	*States*	*ICAO (SSP-SST)* *AFCAC* *RSOOs* *RAIO* *Industries*	Number of States participated in the capacity building activities	High	Progress report to the RASG -AFI/APIRG meetings
G3-SEI-3 Promote safety culture and the establishment of safety data and safety information collection and processing systems, including exchange and protection of information.	development/amen dment of regulations, guidance materials; and implementation of mandatory and voluntary reporting systems, including requirements for protection of safety data and information and their related sources.	2023-2025	*States*	ICAO (SSP-SST) *AFCAC* *RSOOs* *RAIO* *Industries*	*Number/Percentages of States mandatory and voluntary reporting systems, including requirements for protection of safety data and information*	*High*	Progress report to the RASG -AFI/APIRG meetings

establishing/enhancing aircraft accident and investigation processes, including the implementation of accidents/incidents databases	*2023-2025*	*States*	*ICAO (SSO-SST)* *AFCAC* *RSOOs* *RAIO* *Industries*	*Number/Percentages of State* with *aircraft accident and investigation processes, including the implementation accidents/incidents databases*	*High*	Progress report to the RASG -AFI/APIRG meetings
Develop regulations and guidance on safety data and safety information governance	*2023-2025*	*States*	*ICAO (SSP-SST, SSO-SST)* *AFCAC* *RSOOs* *RAIO* *Industries*	*regulations and guidance on safety data and safety information governance*	*High*	Progress report to the RASG -AFI/APIRG meetings
Establish mechanism/models for States to collect Safety Risks and SPIs and share with RASGs	*2023-2025*	*States*	*ICAO (SSP-SST, SSO-SST)* *AFCAC* *RSOOs* *RAIO* *Industries*	*Established mechanism/models for States to collect Safety Risks and SPIs and share with RASGs*	*High*	Progress report to the RASG -AFI/APIRG meetings
Enhance sharing and exchange safety information, analyses, safety risk discoveries/lessons learned and best practices that support a positive safety culture	*2023-2025*	*States*	ICAO (SSP-SST, SSO-SST and OSI-SST) *AFCAC* *RSOOs* *RAIO* *Industries*	*No. of SSP-related sharing sessions/ presentations* *No. of SSP areas covered.*	*High*	Progress report to the RASG -AFI/APIRG meetings

	through a regional platform such as APIRG and RASG.						

Appendix-2:

REGIONAL OPERATIONAL SAFETY RISKS (OPS) ROADMAP - DETAILED SAFETY ENHANCEMENT INITIATIVES (SEIS).

R-HRC 1: Controlled Flight Into Terrain (CFIT)

Goal 1: Achieve a continuous reduction of operational safety risks

Target 1.1: Maintain a decreasing trend of regional accident rate.

Safety enhancement initiative	*Action*	Timeline	*Responsible entity*	*Stakeholders*	*Metrics/Indicators*	*Priority*	*Monitoring Activity*
G1-SEI-1 (AFI-RASP OPS SEI on CFIT)	1A. Ensure that the following CFIT safety actions are	Q4 2024	States	States; ICAO Regional Offices (ESAF/WACAF);	• Number of States that have attained TAWS-related PQs	High	• Review TAWS-related PQs (4.151; 4.171; 4.301)

Mitigate contributing factors to the risk of CFIT	implemented during air operator certification process, or continuous surveillance activities: 1) Ensure aircraft are equipped with terrain awareness and warning system (TAWS) in accordance with Annex 6 – *Operation of Aircraft* 2) Promote the wider use of TAWS beyond the requirements of Annex 6 3) Issue a Safety Advisory to increase adherence to TAWS			Industry	satisfactory. • Number of States that have completed CAPs/Self-Assessment on TAWS-related PQs. • Number of States that have PBN-AR approved procedures for their Instrument Runways. • Number of States that have ATC surveillance radar system with MSAW safety net		during ROST assistance missions and report status to RASG-AFI. • Use the USOAP CMA OLF to obtain the status of TAWS-related PQs. • Review PQs related to PBN-AR authorisation (4.434) during ROST assistance missions and report status to RASG-AFI. • Use the USOAP CMA OLF to obtain the status of PBN-related PQs. • Review PQs related to minimum safe altitude (MSAW) requirements (4.301; 4.151; 4.161; 4.171) during ROST assistance missions and report status to

	warning procedures 4) Promote greater awareness of approach risks 5) Consider the implementation of continuous descent final approaches (CDFA) Implement "Minimum Safe Altitude Warning"(MSAW) system in ATC surveillance radar system 6) Ensure the timeliness of updates and accuracy of Electronic Terrain and Obstacle Data (Etod) 7) Promote the use of GPS-						RASG-AFI. • Use the USOAP CMA OLF to obtain the status of MSAW -related PQs.

derived position data to feed TAWS						
1B. Validate the effectiveness of the safety enhancement initiatives (SEIs) presented in this roadmap through the analysis of mandatory occurrence reporting (MORs) and voluntary occurrence reporting systems (VORs) and accident/incident investigations (apply safety management methodologies)	Annually	States	States; ICAO Regional Offices (ESAF/WACAF); Industry	• MOR system established. • VOR system established, non-punitive; and protects the information and source of information.	High	• Review PQs related to Flight Data Analysis Programme (FDAP) (4.203) during ROST assistance missions and report status to RASG-AFI. • Use the USOAP CMA OLF to obtain the status of FDAP-related PQs.
1C. Identify additional contributing factors, for example:	Annually	States, RASG-AFI	RASG-AFI, States; Industry	• Number of contributing factors to CFIT occurrences	Medium	Data from Mandatory Occurrence Reporting Systems and Voluntary Occurrence Reporting Systems provided by States to RASG-AFI on quarterly basis.

1) Flight in adverse environmental conditions 2) Approach design and documentation (e.g. approaches with vertical guidance (APV) or localizer performance with vertical guidance (LPV) approaches) 3) Phraseology used (standard vs. non-standard) 4) Pilot fatigue and disorientation 5) Altimetry error (QNH blunder)						

	6) Communication error						
	1D. Develop and implement further SEIs to mitigate the risk of the identified contributing factors, if any, for CFIT.	Continuous	States, RASG-AFI	States, RASG-AFI, Industry	• Training of flight crew on strict adherence to SOPs • Number of States that have designed and published current LPV procedures • Number of States implementing refresher training of ATCOs • Number of States implementing Fatigue Management	Medium	• Status of PQs related to implementation of training programmes being satisfactory from the USOAP CMA OLF • Monitor through ROST Missions and report to RASG-AFI • Status of PQs related to implementation of Fatigue Management being satisfactory from the USOAP CMA OLF
	1E. Conduct continuous evaluations of the performance of the SEIs						

G1-SEI-2 Mitigate contributing factors to CFIT accidents and incidents	2A. Organise Seminars on CFIT to facilitate the implementation of the following CFIT safety actions: 1) Support the adoption of TAWS in accordance with Annex 6 – *Operation of Aircraft* 2) Promote the wider use of TAWS beyond the requirements of Annex 6 3) Promote the adherence to TAWS warning procedures 4) Promote greater awareness of approach risks	Annually	OSI-SST	States, IATA, AFRAA, BAGASOO, BAGAIA, CASSOA, URSAC, AAMAC	• Number of Seminars held • Attendance at Seminars • Number of States in the region that have implemented CFIT safety actions.	High	• Review ROST assistance mission reports on CFIT-related PQs (4.093, 4.149, 4.151, 4.153, 4.161, 4.165, 4.171, 4.203, 4.301, 4.434, 4.435,) and report status to RASG-AFI. • Use the USOAP CMA OLF to obtain the status of CFIT-related PQs; and formulate measures for further improvement.

	5) Promote the implementation of CDFA 6) Promote the implementation of MSAW systems 7) Promote the timeliness of updates and accuracy of eTOD 8) Promote the use of global positioning system (GPS)-derived position data to update TAWS						
	2B. Validate the effectiveness of the SEIs presented in this roadmap in the region using data provided by States and industry (apply	Annually	States, RASG-AFI	States, IATA, AFRAA, BAGASOO, BAGAIA, CASSOA, URSAC, AAMAC	• Number of SEIs considered effective	High	Report on the implementation status of SEIs provided by OSI-SST to RASG-AFI

	safety management methodologies)						
	2C. Identify additional contributing factors, for example: 1) Flight in adverse environmental conditions 2) Approach design and documentation 3) Phraseology used (standard vs non-standard) 4) Pilot fatigue and disorientation	Annually	States, RASG-AFI	RASG-AFI, States; Industry	Number of contributing factors to CFIT occurrences	Medium	Data from Mandatory Occurrence Reporting Systems and Voluntary Occurrence Reporting Systems provided by States to RASG-AFI on quarterly basis
	2D. Develop and implement Corrective Action	Continuous	States	States, ICAO	Number of States that have implemented their CAPs/ States self-assessment at least 75%	High	PQs: 4.093, 4.149, 4.151, 4.153, 4.161, 4.165, 4.171, 4.203, 4.301, 4.434, 4.435.

	Plans (CAPs)/State Self-Assessment on deficiencies identified by the USOAP CMA activities and related Protocol Questions (PQs) to mitigate the risk of the identified contributing factors, if any; and continuously evaluate the performance of the SEIs.						Monitor the status of identified PQs using USOAP CMA OLF; and the monitoring tool provided as Appendix 3 to this document.
G1-SEI-3 Mitigate contributing factors to CFIT accidents and incidents	3A. Implement the following CFIT safety actions: 1) Equip aircraft with TAWS 2) Increase adherence to TAWS warning procedures	Continuous	Industry	Industry, States, IATA, AFRAA, IFALPA, IFATCA.	• Types of aircraft engaged in international air transport operations equipped with TAWS • Number of trainings, workshops and seminars	High	• Data from FDAP • Data from Mandatory Occurrence Reporting Systems and Voluntary Occurrence Reporting Systems • Trainings, Seminars and Workshops conducted. • Audit outcomes of industry programmes

	3) Develop greater awareness of approach risks 4) Promote CDFA 5) Utilize MSAW systems 6) Utilize up-to-date eTOD 7) Utilize GPS-derived position data to feed TAWS						
	3B. Validate the effectiveness of the SEIs presented in this roadmap through the analysis of flight data monitoring (FDM)* and pilot reports** (apply safety management methodologies)	Continuous	Industry	Industry, States, IATA, AFRAA, IFALPA, IFATCA.	Number of SEIs considered effective	High	Report on the implementation status of SEIs provided by OSI-SST to RASG-AFI

	3C. Identify additional contributing factors, for example: 1) Flight in adverse environmental conditions 2) Approach design and documentation 3) Phraseology used (standard vs non-standard) 4) Pilot fatigue and disorientation	Annually	Industry	Industry, States, IATA, AFRAA, IFALPA, IFATCA.	•Number of contributing factors to CFIT occurrences	Medium	Data from Mandatory Occurrence Reporting Systems and Voluntary Occurrence Reporting Systems provided by Industry to RASG-AFI on quarterly basis
	3D. Develop and implement further SEIs to mitigate the risk of the identified contributing	Continuous	Industry	Industry, States, IATA, AFRAA, IFALPA, IFATCA.	Number of additional SEIs implemented to mitigate the risk of the identified contributing factors for CFIT	Medium	Audit outcomes of industry programmes

	factors, if any, for CFIT						
	3E. Conduct continuous evaluation of the performance of the SEIs **TAWS cautions and warnings, and pilot responses to TAWS warnings.* ***Flight planning - failure to comply with minimum safe altitude (MSA) or military operations area (MOA) restrictions.*	Continuous	Industry	Industry, States, IATA, AFRAA, IFALPA, IFATCA.	Number of SEIs effectively implemented	High	Audit outcomes of industry programmes

R-HRC 2: Loss of control in-flight (LOC-I)

Goal 1: Achieve a continuous reduction of operational safety risks

Target 1.1: Maintain a decreasing trend of regional accident rate.

Safety enhancement initiative	Action	Timeline	Responsible entity	Stakeholders	Metrics/Indicators	Priority	Monitoring Activity
G1-SEI-1 Assist States and stakeholders implement LOC-I safety mitigation actions through promotion/sensitization	Organize an annual workshop on LOC-I and UPRT	Q1 2024 to Q4 2028	RASG-AFI, LOC-I Champion State, ICAO Secretariat	• Civil aviation authorities (CAAs) • Air Operators • Approved training organizations • Accident Investigation Board (AIBs) • Manufacturers • Regional organizations	• Number of workshops held • Attendance at workshops • Change in States' training requirements in the region	High	• regional survey • USOAP CMA self-assessment questionnaire
G1-SEI-2 Implementation of the RASG-AFI 5-year LOC-I and UPRT Plan of Action	Implement the RASG-AFI 5-year LOC-I and UPRT Plan of Action	Q1 2024 to Q4 2028	RASG-AFI and LOC-I Champion State, States	• Civil aviation authorities (CAAs) • Air Operators • Approved training	Level of implementation of the different action items of the Plan	High	Reporting Online survey Data from other industry partners

				organizations • Accident Investigation Board (AIBs)			
G1-SEI-3 Build on initiatives and actions identified or recommended during past workshops	Consolidate and promote the implementation of relevant initiatives and actions as previously identified during past workshops	Q1 2024 to Q4 2028	RASG-AFI, LOC-I Champion State and ICAO Secretariat	• Civil aviation authorities (CAAs) • Air Operators • Approved training organizations • Accident Investigation Board (AIBs) • Manufacturers • Regional organizations	% implementation of the SEIs in the five-year plan and any SEIs stemming from subsequent LOC-I workshops (Appendix)	High	Reporting and communication SEIs in the five year plan and recommendations stemming from the LOC-I/ UPRT workshops to be used in the implementation of the five year plan
G1-SEI-4 Factor in Error and Threat Management	Apply all ICAO pilot competencies (Flight path management, Automation, Manual flying, Communication, Leadership and	Q1 2024 to Q4 2028	• RASG-AFI • CAAs • Air Operators • Approved training organizations	• Air Operators • Approved training organizations	Procedures included in the operation manual FDAP SMS Training	High	• Reporting through CAAs • USOAP CMA Online Framework • iSTARS • Monitor the status of identified PQs related to FDAP, SMS and

	Teamwork, Workload management, Problem solving and Decision making)						Training using USOAP CMA OLF
G1-SEI-5 Ensure the Effectiveness of the SEIs	Continuously Validate the effectiveness of the SEIs and identify additional contributing factors	Continuous	RASG-AFI and LOC-I Champion State, States	• Civil aviation authorities (CAAs) • Air Operators • Approved training organizations • Accident Investigation Board (AIBs)	•Number of SEIs considered effective	High	• Responsible entities and stakeholders Reporting Online survey • Report on the implementation status of SEIs provided by OSI-SST to RASG-AFI
G1-SEI-6 Mitigate the risk of the identified contributing factors	Develop and implement further SEIs to mitigate the risk of the identified contributing factors, if any, for	Continuous	RASG-AFI and LOC-I Champion State, States	• Civil aviation authorities (CAAs) • Air Operators • Approved training organizations • Accident Investigation	Number of additional SEIs implemented to mitigate the risk of the identified contributing factors for LOC-I	Medium	• Audit outcomes of industry programmes • USOAP CMA Online Framework • iSTARS • Responsible

	LOC-I and Conduct continuous evaluations of the performance of the SEIs			Board (AIBs)			entities and stakeholders Reporting • Online survey

R-HRC 3: Mid-Air Collision (MAC)							
Goal 1: Achieve a continuous reduction of operational safety risks **Target 1.1: Maintain a decreasing trend of regional accident rate.**							
G1-SEI-1 Collection of data concerning airspace around the Horn of Africa coordination challenges	To understand why failure in coordination is occurring and what CAP can be put in place to improve the situation	Ongoing	States concerned, ICAO	ANSP's Regulators, Airlines, IATA	• % of CAP implementation to address failure in coordination around the horn of Africa • Convening of Coordinationmeetings and conduct ofassociated workshops	High	• In conjunction with ARMA ongoing monitoring of threats of MAC • Report of the coordination meetings and associated workshops
RVSM airspace monitoring	RVSM data reports to ARMA on a monthly basis	Ongoing	AFI States	ANSP's Regulators Airlines IATA ARMA	Number of States that have submitted RVSM data to ARMA	High	• In conjunction with ARMA ongoing monitoring of threats of MAC • Collision Risk Assessment (CRA) Reports

R-HRC 4: Runway Excursions (RE)							
Goal 1: Achieve a continuous reduction of operational safety risks **Target 1.1: Maintain a decreasing trend of regional accident rate.**							
G1-SEI-1 Mitigate contributing factors to risk of RE	1A Organize Runway Safety Workshops , Seminars and Webinars	Continuous	States IATA, ACI, RSOOs, AFCAC, CANSO, ICAO	States IATA, ACI, RSOOs, AFCAC, CANSO, ICAO	• Number of workshops held. • Attendance at workshops •	High	Report of events
	Identify contributing factors	Annually	States, RASG-AFI	States IATA, ACI, RSOOs, AFCAC, CANSO, ICAO	• Downward changes in number of risk factors • Changes in State training requests	High	• Monitoring implementation of RST programmes using the KPIs • Review of PQs related to RSTs • Survey data, • Incident reports • RSTs to report quarterly on KPIs

	Promote the establishment and implementation of State Runway Safety Programme	Annually	RASG-AFI	States, Industry, IATA, ACI, RSOOs, AFCAC, CANSO, ICAO	• Number of runway safety programmes established • Number of state runway safety programmes being implemented	High	• Quarterly reports on implementation of Runway safety programmes to RASG-AFI • Review PQs related to establishment of RSTs • Gather State Runway Safety Programme documents
	1B Organize and implement follow up activities on implementation of GRF at Regional and State level.	Annually	States IATA, ACI, RSOOs, AFCAC, CANSO, ICAO	States IATA, ACI, RSOOs, AFCAC, CANSO, ICAO	• Number of States implementing GRF • Number of Runway Excursion incidents reported.	High	• GRF reports at airports • Monitor the status of identified PQs using USOAP CMA OLF • Report on Runway Excursion incidents

R-HRC 5: Runway Incursions (RI)							
Goal 1: Achieve a continuous reduction of operational safety risks **Target 1.1: Maintain a decreasing trend of regional accident rate.**							
G1-SEI-1 Mitigate contributing factors to the risk of RI	1A Organize Runway Safety Workshops , Seminars and Webinairs	Continuous	States IATA, ACI, RSOOs, AFCAC, CANSO, ICAO	States IATA, ACI, RSOOs, AFCAC, CANSO, ICAO	• Number of workshops held. • Attendance at workshops •	High	Report of events
	Identify contributing factors	Continuous	States, RASG-AFI	States IATA, ACI, RSOOs, AFCAC, CANSO, ICAO	• Downward trends in Runway incursions reported	High	•Monitoring implementation of RST programmes using the KPIs •Review of PQs related to RSTs •Survey data, •Incident reports •RSTs to report quarterly on KPIs
	1B Encourage States to request for Runway Safety Go Team missions	Continuous	RASG-AFI	States, Airlines, Airport Operators	• Number of requests by States implemented • Number of participants in Runway Safety Go-team missions. • Changes in runway safety related incidents	High	Reporting activities of Runway Safety Go-Teams

e.g., *GASP ORG SEI-3 (Region) — Establishment of an independent accident and incident investigation authority, consistent with Annex 13 — Aircraft Accident and Incident Investigation*	*Identify champion States, via the RASGs, to assist in building the accident and incident investigation capabilities of States which require assistance*	*Q1 2020 to Q4 2022*	*RASG*	• *AIBs* • *CAAs* • *Aircraft manufacturers* • *RAIO*	• *Number of champion States offering assistance* • *Number of States that received assistance* • *Number of capacity-building missions on accident and incident investigations completed in the region*	*High*	*USOAP/CMA results following next audits in the region*

Appendix- 3: Performance Monitoring Mechanisms
3A: State Safety Programme (SSP)

AFI Safety Enhancement Initiative (RSEI)	GASP - SEI	RASP RSEI- Suporting Action	Priority (Safety Impact/Resources)	Entity/Owner	Stakeholders/Partner	Metrics / Indicators	Baseline	Target 2023	Target 2024	Target 2025	Frequency of Data Collection	Data Collection Method / Tool
Goal 3 - Increase the level of Implementation of State Safety Programmes in the RASG-AFI Region *(RASP 1.2 Component 2 — State safety programme)*												
Issue: Slow Progress toward the implementation of an effective State Safety Program												
3.1 Guide and support SSP implementation in the region	10 B	Support the SSP implementation through the implementation of AFI SSP project and other Regional activities	2-High Impact- High Resources	ICAO SSP-SST	Sates/ AFCAC/RSOOs/RAIOs/Industries	**3.1.1-** Number of States Assisted **3.1.2**- % Required CAPs related to the SSP foundational PQs submitted/compleed by States (using OLF) **3.1.3-** Level of SSP Implementation for Assisted States	1.1 - 0 States 1.2 -14.28% Fondation PQs CAPs completed 1.3 -Level SSP implementation SSP L1 - 10 SSP L2 -7 SSP L3-19 SSP L4- 1	1.1 - 10 States 1.2 -Increase 10% 1.3 - SSP As per the mechanism defined	1.1 - 10 States 1.2 -Increase 10% 1.3 - SSP As per the mechanism defined (SMI Tool)	1.1 - 10 States 1.2 -Increase 10% 1.3 - SSP As per the mechanism defined (SMI Tool)	Annually	SSP implementation Status
	1B	complete OLF CAPs related to the SSP foundational PQs and update the iSTARs GAP-Analysis	2-High Impact- High Resources	States	ICAO/AFCA CRSOOs/RAIOs/Industries							
	10 C	Establish a collaboration group with Member State experts to support SSP implementation activities in the Region	1-High Impact - Low Resources	ICAO SSP projet group of States	RSOOs/RAIOs/ICAO	3. 1.4 - Established Collaboration Group	None	1.4 - Established Collaboration Group with target States	1.4 - Established Collaboration Group extended to States	1.5 - Establish an online Regional collaboration Platform	Annually	SSP implementation Status
	11 A	Support the Implementation of NASP through iPacks and workshops	2-High Impact- High Resources	ICAO (,SSP-SST)/	States AFCAC RSOOs RAIO Industries	3. 1.5 - Number of States published a National Aviation safety Plan Number of activities conducted sup	10 (Ten) States have published their NASPs with the ICAO Online Community.					

AFI Safety Enhancement Initiative (RSEI)	GASP - SEI	RASP RSEI- Suporting Action	Priority (Safety Impact/Resources)	Entity/Owner	Stakeholders/Partner	Metrics / Indicators	Baseline	Target 2023	Target 2024	Target 2025	Frequency of Data Collection	Data Collection Method / Tool
	SEI -8	Support the development of SSP regulations, guidance materials and tools for SSP implementation and monitoring in collaboration with MS	2-High Impact- High Resources	States AFCAC RSOOs RAIOs Industries	ICAO/ SSO-SST/ OSI-SST SSP-SST	3. 1.6 - % of States Contributing 3.1.7 - % of RSOOs/RAIOs/Industry contributing	None	1.5 - 10 States 1.6 - 5 RSOOs/RAIOs	1.5/1.6 - Increase 15%	1.5/1.6 - Increase 15%	Annually	SSP -SST and SSP project activities
		Enhance sharing and exchange safety information, analyses, safety risk discoveries/lessons learned and best practices that support a positive safety culture through a regional platform such as APIRG and RASG		States AFCAC RSOOs RAIO Industries	ICAO(SSP-SST,SSO-SST and OSI-SST)	No. of SSP-related sharing sessions/ presentations No. of SSP areas covered.						
	SEI -4 —	Provide Assistance on the SMS acceptance (AED, AMO, ATOs) and reviewing SP Safety Risks	2-High Impact- High Resources	AFCAC RSOOs RAIOs States Industries	ICAO/ SSO-SST/SSO-SST OSI-SST	3. 1.6 - % of States Assisting on the SMS acceptance 3.1.7 - % of RSOOs/RAIOs/Industry contributing	None	1.5 - 10 States 1.6 - 5 RSOOs/RAIOs	1.5/1.6 - Increase 15%	1.5/1.6 - Increase 15%	Annually	SSP -SST and SSP project activities
3.2 Facilitate capacity building activities through training, seminars and workshops in	12 E	Conduct workshop on validation of SSP implementation/documentations and tools	1-High Impact - Low Resources	ICAO/SSP Project Group	ICAO/SSP-SST	2.1 - Number of capacity building Activities Conducted	None	2 .1- At least 2 Activities Conducted	2 .1- At least 2 Activities Conducted	2 .1- At least 2 Activities Conducted	Annually	
		Provide training on Safety Risk Based Surveillance (SRBS)	2-High Impact- High	AFCAC/Industry/States/RSOOs/RAIOs	ICAO/SSP-SST							

AFI Safety Enhancement Initiative (RSEI)	GASP - SEI	RASP RSEI- Suporting Action	Priority (Safety Impact/Resources)	Entity/Owner	Stakeholders/Partner	Metrics / Indicators	Baseline	Target 2023	Target 2024	Target 2025	Frequency of Data Collection	Data Collection Method / Tool
partnership with States/ industry/RSOOs/RAIOs			Resources									
		Provide training on SMS acceptance , monitoring and reviewing SP Safety Risks	2-High Impact- High Resources	AFCAC/Industry/States/RSOOs/RAIOs	ICAO/ SSO-SST/ OSI-SST/							
		Provide training/awareness to CAA staff on safety data and safety information governance process	2-High Impact- High Resources	Industry/RSOOs/RAIOs/States	ICAO/SSP-SST OSI-SST/ OSI-SST/							
		Conduct Aviation Data-driven Decision Making (AD3M EN) - Part 1 and 2		States AFCAC RSOOs RAIO Industries	ICAO (SSP-SST)	Number of States participated in the capacity building activities						
		Provide training on SSP		States AFCAC RSOOs RAIO Industries	ICAO (SSP-SST)	Number of States participated in the capacity building activities						
3.3 Promote safety culture and the establishment of safety data and safety information collection and processing systems, including and the exchange	1C	Support States in development of regulations, guidance material and for implementation for mandatory and voluntary reporting systems, including requirements for proctection of safety data and informaation	1-High Impact - Low Resources	AFCAC/RSOOs/RAIOs Industry/States	ICAO/ SSO-SST	3.1 Number of States that are sharing their Safety Risks and SSP SPIs with RASGs.	None	2 States	6 States	10 States	Annually	

AFI Safety Enhancement Initiative (RSEI)	GASP - SEI	RASP RSEI- Suporting Action	Priority (Safety Impact/Resources)	Entity/Owner	Stakeholders/Partner	Metrics / Indicators	Baseline	Target 2023	Target 2024	Target 2025	Frequency of Data Collection	Data Collection Method / Tool
and proctection of information		Support States in establishing/enhancing aicraft accident and investigation investigation processes, including the implementation accidentes/incidents databases	2-High Impact- High Resources	RAIOs/States /AFCAC/Industry	ICAO/SSO-SST/SSO-SST							
	13 B	Develop regulations and guidance on safety data and safety information governance	2-High Impact- High Resources	RSOOs/RAIOs Industry	ICAO/ OSI-SST SSP-SST							
	13 E 1C	Establish mechanims/models for States to collect Safety Risks and SPIs and share with RASGs	2-High Impact- High Resources	States/ AFCAC/RSOOs/RAIOs Industry/States	ICAO/ OSI-SST SSP-SST							

Appendix- 3: Performance Monitoring Mechanisms

3B: Monitoring Tool for the implementation of SEIs identified to mitigate CFIT risks (WACAF States)

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	AA	AB	AC	AD
1	SEIs and related PQs	PQ Text	Benin	Burkina Faso	Cabo Verde	Cameroon	Central African Republic (the)	Chad	Congo (the)	Côte d'Ivoire	Democratic Republic of the Congo (the)	Equatorial Guinea	Gabon	Gambia (the)	Ghana	Guinea	Guinea-Bissau	Liberia	Mali	Mauritania	Niger (the)	Nigeria	Sao Tome & Principe	Senegal	Sierra Leone	Togo	Baseline, 31 December 2022 (WACAF Only)	31-Dec-23	31-Dec-24	31-Dec-25
2	Implementation Status, Baseline: 31 December 2022:		70%	100%	90%	90%	10%	70%	100%	100%	81.80%	100%	100%	50%	60%	20%	0%	50%	80%	81.80%	10%	72.70%	0%	54.60%	100%	90%				
3	Implementation Status 2023:																													
4	Implementation Status 2024:																													
5	Implementation Status 2025:																													
6	4.093 CE-5	Is there a formal application form that a prospective air operator must complete and submit in order to obtain an AOC, operations specifications and/or special authorizations?	S	S	S	S	S	S	S	S	S	S	S	S	S	S	NS	S	S	S	S	S	NS	S	S	S	91.67%			
7	4.434 CE-5	Has the flight operations inspection organization established procedures for the issuance of other approvals and authorizations contained in the operations specifications?	ND	ND	ND	ND	ND	ND	ND	S	S	ND	ND	NS	ND	ND	ND	NS	ND	S	ND	ND	ND	S	NA	ND	66.67%			

8	4.149 CE-6	Does the flight operations inspection organization ensure that the air operator outlines, in its operations manual, standard operating procedures (SOPs):	S	S	S	S	NS	NS	S	S	S	S	S	NA	S	NS	NS	NA	NS	S	NS	S	NS	NS	NA	NS	57.14%	
9		1) For each phase of flight,																										
11		2) Crew briefings for departure and approach,																										
12		3) Developed checklists as an integral part of its SOPs, and																										
13		4) Instructed and/or trained its flight and cabin crew on how to use the SOPs?																										
14	4.151 CE-6	Does the flight operations inspection organization ensure that the air operator outlines, in its operations manual, instructions on the clarification and acceptance of air traffic control (ATC) clearances, particularly where terrain clearance is involved?	S	S	S	S	NS	S	S	S	S	S	S	NA	S	NS	NS	NA	S	S	NS	NS	NS	S	NA	S	71.43%	
16	4.153 CE-6	Does the flight operations inspection organization ensure that the air operator includes, in its operations manual:	NS	S	S	S	NS	S	S	S	S	S	S	NA	S	NS	NS	NA	S	S	NS	S	NS	NS	NA	S	66.67%	
17		a) Instructions and training requirements on the avoidance of CFIT, and																										
18																												
19		b) Policy on the use of GPWS?																										
20																												
21	4.161 CE-6	Does the flight operations inspection organization ensure that the air operator has established a system to provide its operations staff and flight crew with aircraft operating information, including mandatory revisions?	S	S	S	S	NS	S	S	S	S	S	S	NA	NS	NS	NS	NA	S	S	NS	S	NS	NS	NA	S	66.67%	
22	4.165 CE-6	Does the flight operations inspection organization ensure that the aircraft operating information include approved MEL/configuration deviation list (CDL) for the aeroplane types operated and specific operations authorized?	S	S	S	S	NS	S	S	S	NS	S	S	NA	NS	NS	NS	NA	S	S	NS	NS	NS	NS	NA	S	57.14%	

23	4.171 CE-6	Does the flight operations inspection organization ensure that an air operator has established a route guide to be used by its flight crew for each flight?	S	S	S	S	NS	S	S	S	S	S	S	NA	NS	NS	NS	NA	S	NS	NS	S	NS	S	NA	S	66.67%
24	4.203 CE-6	Does the flight operations inspection organization ensure that:	NS	S	NS	NS	NS	NS	S	S	S	S	S	NA	NS	NS	NS	NA	NS	NS	NS	S	NS	NS	NA	S	38.10%
25		a) the air operator has established and maintained a flight data analysis programme,																									
26		b) the flight data analysis programme is non-punitive and contains safeguards to protect the source(s) of the data?																									
27	4.435 CE-6	Does the flight operations inspection organization ensure that the air operator has taken into account, reviewed and implemented all regulations before operations specifications are granted?	S	S	S	S	NS	NS	S	S	NS	S	S	NA	S	NS	NS	NA	S	S	NS	NS	NS	S	NA	S	61.91%
28	4.301 CE-6	Does the flight operations inspection organization approve the method for determining aerodrome operating minima for aeroplane operators?	NS	S	S	S	NS	S	S	S	S	S	S	NA	S	S	NS	NA	S	S	NS	S	NS	S	NA	S	76.19%

Key: **S = Satisfactory; NS = Not Satisfactory; NA = Not Applicable; ND = Not Determined; NIL = No USOAP CMA Activity conducted.**

3C: Monitoring Tool for the implementation of SEIs identified to mitigate CFIT risks (ESAF States)

AE	AF	AG	AH	AI	AJ	AK	AL	AM	AN	AO	AP	AQ	AR	AS	AT	AU	AV	AW	AX	AY	AZ	BA	BB	BC	BD	BE	BF	BG
	Angola	Botswana	Burundi	Comoros	Djibouti	Eritrea	Eswatini	Ethiopia	Kenya	Lesotho	Madagascar	Malawi	Mauritius	Mozambique	Namibia	Rwanda	Seychelles	Somalia	South Africa	South Sudan	Uganda	U. R. of Tanzania	Zambia	Zimbabwe	Baseline, 31 December 2022 (ESAF Only)	31-Dec-23	31-Dec-24	31-Dec-25
	100%	100%	100%	30%	50%	30%	10%	####	72.70%	33.30%	100%	80%	100%	100%	60%	100%	27.30%	NIL	81.80%	NIL	100%	63.60%	100%	?				
PQ 4.093	$	$	$	$	$	NS	$	$	$	$	$	$	$	$	$	$	NS	NIL	$	NIL	$	$	$	Recent USOAP CMA Audit results yet to be posted.	86.36%			
PQ 4.434	$	$	$	$	NS	ND	ND	$	$	ND	ND	ND	ND	ND	ND	ND	$	NIL	$	NIL	$	NS	ND		75.00%			
PQ 4.149	$	$	NA	NS	NA	NS	NS	$	$	NS	$	$	$	$	NS	$	NS	NIL	$	NIL	$	$	$		65%			

PQ4.151	$	$	NA	NS	NA	NS	NS	$	$	NS	$	$	$	$	$	$	NS	NIL	$	NIL	$	$	$		70.00%		
PQ4.153	$	$	NA	NS	NA	$	NS	$	$	NS	$	$	$	$	NS	$	NS	NIL	NS	NIL	$	$	$		65.00%		
PQ4.161	$	$	NA	NS	NA	NS	NS	$	NS	NS	$	$	$	$	$	$	NS	NIL	$	NIL	$	$	$		65.00%		
PQ4.165	$	$	NA	$	NA	$	NS	$	$	$	$	$	$	$	NS	$	NS	NIL	$	NIL	$	NS	$		75.00%		
PQ4.171	$	$	NA	NS	NA	NS	NS	$	$	NS	$	$	$	$	$	$	$	NIL	$	NIL	$	$	$		75.00%		

PQ 4.203	S	S	NA	NA	NA	NS	NS	NS	NS	NA	S	NS	S	S	NS	S	S	NIL	NS	NIL	S	NS	NA		57.14%			
PQ 4.435	S	S	NA	NS	NA	S	NS	S	NS	S	S	S	S	S	S	S	S	NS	NIL	S	NIL	S	NS	S		70.00%			
PQ 4.301	S	S	NA	NS	NA	NS	NS	S	S	NS	S	NS	S	S	S	S	S	NS	NIL	S	NIL	S	S	S		65.00%			

Key: S = Satisfactory; NS = Not Satisfactory; NA = Not Applicable; ND = Not Determined; NIL = No USOAP CMA Activity conducted.

Appendix-4: RASG-AFI Safety Support Teams (SSTs), Terms of Reference.

1. Introduction

1.1 To assist in its work and support the development, implementation and prioritization of the Regional Aviation Safety Group for Africa – Indian Ocean Region (RASG-AFI) safety initiatives, the Group may create contributory bodies (Safety Support Teams) to discharge the RASG-AFI work programme by working on defined subjects requiring detailed technical expertise. A contributory body shall only be formed when it has been clearly established that it is able to make a substantial contribution to the required work. A contributory body will be dissolved by the RASG-AFI when it has completed its assigned tasks or if the tasks cannot be usefully continued.

1.2 The Safety Support Teams (SSTs) will operate in coordination with and under the guidance of the RASG-AFI Steering Committee (RASC). The SSTs should accomplish their tasks by developing mitigation strategies by means of a Regional Aviation Safety Plan (AFI – RASP), based on gathering and processing safety data and information. These mitigation strategies shall be focused on the Global Aviation Safety Plan (GASP), corresponding Safety Enhancement Initiatives (SEIs) and the associated Global Aviation Safety Roadmap (GASR), which serves as an action plan to assist the aviation community in achieving the GASP goals through a structured, common frame of reference for all stakeholders.

1.3 Participation in Safety Support Teams should be by specialists or experts in the subjects under consideration. Such specialists should have relevant experience in the field concerned. Secretaries of Safety Support Teams established by the Group will be appointed by the Secretary of the RASG-AFI.

1.4 The RASG-AFI Contributory Bodies (Safety Support Teams, SSTs) are hereby restructured for efficiency and better alignment with the current GASP Goals and Targets as follows: State Safety Oversight System Support Team (SSO-SST); Operational Safety Issues Support Team (OSI-SST); State Safety Programme Support Team (SSP – SST); Air Navigation Services Safety Support Team (ANS – SST).

2. Purpose of the SSTs

2.1 Support the RASG-AFI in the development/update of the RASG-AFI Regional Aviation Safety Plan (AFI-RASP) and the monitoring of the implementation of Safety Enhancement Initiatives (SEIs) related to identified safety issues.

2.2 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 CMA Activities.

2.3 Recommend safety mitigations to the RASG-AFI, related to identified safety issues which would reduce aviation risks.

2.4 In order to meet its Terms of Reference, the SSTs shall:

a) follow-up the updates of the Global Aviation Safety Plan (GASP) and support the development, update and implementation of the RASG-AFI Regional Aviation Safety Plan (AFI-RASP) at the regional level and provide feedback to the RASG-AFI;

b) identify and develop the SEIs, which are aligned with the regional priorities and targets, for implementation within the RASG-AFI Region. The focus of these SEIs is to effectively and economically mitigate the safety risks identified by the Annual Safety Report Team (ASRT);

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-AFI;

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 RASG-AFI 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 coordinated efforts;

i) propose input to the development of the RASG-AFI Annual Work Programme through the RASG-AFI Steering Committee (RASC); and

j) Coordinate with the RASG-AFI through the RASC; and the APIRG contributory bodies on issues of common interest.

3. Composition

The SST is composed of Members designated by the RASG-AFI States and Partners. Chairpersons of the SSTs shall be elected by the Members.

4. Roles and Responsibilities

- **SSTs Chairpersons**: – Coordinate SST activities and provide overall guidance and leadership;
- **ICAO:** Provision of Secretariat and Technical Support; and
- **Partners:** collaborate in the development of materials as requested by the SST, and provide technical expertise and support, as required.

5. Meetings Arrangements

- The Chairperson, in close cooperation with the Secretary, shall make all necessary arrangements for the most efficient working of the SSTs. The SSTs shall at all times conduct their 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 SSTs 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 considered necessary.

6. TERMS OF REFERENCE (ToRs) OF THE SAFETY SUPPORT TEAMS

6.1 State Safety Oversight System Support Team (SSO-SST)

6.1.1 Purpose of the SSO Support Team

The purpose of the Team is to assist States improve their effective implementation (EI) of the critical elements of a State's safety oversight system, including safety indexes in the Operations, Air Navigation and Supporting functional categories; prevent SSCs and resolve existing ones within the set deadline. Priority will be given to States with existing Significant Safety Concerns (SSCs) and those with low EI score to achieve the relevant RASG-AFI safety target in line with the current Edition of the Global Aviation Safety Plan (GASP):

Goal 2 - Strengthen States' safety oversight capabilities;
Goal 4 - Increase collaboration at the regional level and
Goal 5 - Expand the use of industry programmes.

In this respect, the team is to:

a) Analyze data-driven safety risk areas identified by RASG-AFI using the Safety Performance Areas and Best Practices for ICAO, States and Industry as contained in the Regional Aviation Safety Plan (AFI-RASP) and the current Global Aviation Safety Plan (GASP);
b) Identify possible mitigation measures and recommend implementation actions;

c) Recommend establishment of, and develop proposals for, achievable projects based on prioritized mitigation measures with well-defined deliverables (including metrics to assess the effectiveness of the proposed mitigation actions) and clear timeframes established and proposed to RASG-AFI for further action. Additional consideration should be given to Organizational and Operational Issues, as well as Safety Performance Measurement as necessary.

6.1.2 Membership

- ICAO Member States of the RASG-AFI Region
- AAMAC
- AFCAC
- ASSA-AC
- BAGAIA
- BAGASOO
- CASSOA
- iSASO
- URSAC
- Funding Partners
- Other representative organizations, or entities directly involved with aviation safety may be invited to join the working group either as a full member or observer as may be decided by the RASG-AFI Secretariat.

6.1.3 Roles and Responsibilities

a) ICAO Regional Offices to serve as Secretariat
b) SSO Support Team members – provide technical expertise in analyzing and identifying achievable mitigation measures for identified safety risk areas in the RASG-AFI region, especially to avoid emergence of Significant Safety Concerns (SSCs).

6.1.4 Working methods/arrangements

The SSO-SST discharges the RASG-AFI work programme by working on defined subjects as per the RASG-AFI Procedural Handbook.

6.2 Operational Safety Issues Support Team (OSI-SST)

6.2.1 Purpose of the OSI-SST

The purpose of the Team is to assist States to progressively reduce the rate of accidents and serious incidents in Africa-Indian Ocean Region by first addressing the Regional High Risk Categories of occurrences (R-HRCs) and mitigate the risk of fatalities through Runway Excursion (RE), Runway Incursion (RI), Controlled Flight Into Terrain (CFIT), Loss of Control In-flight (LOC-I), and Mid-Air Collision (MAC). The Team will also assist States to establish and maintain a regulatory framework and technical guidance materials for operations and integration of Remotely Piloted Aircraft Systems (RPAS), including Unmanned Aerial Systems (UAS), in the conventional Air Traffic Management system at both national and regional

levels. The ultimate purpose is to achieve the relevant RASG-AFI safety targets and the Global Aviation Safety Plan (GASP) goals and targets:

Goal 1 - Achieve a continuous reduction of operational safety risks; and
Goal 5 - Expand the use of industry programmes

In this respect, the team is required to:

a) Analyze data-driven safety risk areas identified by RASG-AFI using the Safety Performance Areas and Best Practices for ICAO, States and Industry as contained in the Regional Aviation Safety Plan (AFI-RASP) and the current Global Aviation Safety Plan (GASP)
b) Share reports on operation of RPAS/UAS among RASG-AFI Aviation stakeholders;
c) Establish a RASG-AFI Dashboard, periodically collect Safety data and utilize Safety Performance Indicators (SPIs) to maintain the Dashboard, which should be available to the member States.
d) Monitor the SPIs and share data with other SSTs. If deviation from expected relevant performance is noted on the SPIs, other SSTs will be notified for further analysis.
e) Contribute key regional safety information from the previous year to the RASG-AFI Annual Safety Report.
f) Periodically propose updates to the RASG-AFI Regional Aviation Safety Plan for alignment with the current GASP.
g) Adopt and use relevant guidance materials relating to the prevailing safety issues.
h) Identify possible mitigation measures and recommend implementation actions.
i) Recommend establishment of achievable projects based on prioritized mitigation measures with well-defined deliverables (including metrics to assess the effectiveness of the proposed mitigation actions) and clear timeframes established and proposed to RASG-AFI for further action. Consideration should also be given to Organizational and Operational Issues, as well as Safety Performance Measurement, especially as they relate to the R-HRCs (RE; RI; CFIT; LOC-I; and MAC).

6.2.2 Membership

- ICAO Member States of the AFI Region
- ACI
- AFRAA
- ASECNA
- CANSO
- EASA
- FSF
- IATA
- IFALPA
- IFATCA

- US FAA
- Aircraft Manufacturers (AIRBUS, BOEING, etc.)
- Other representative organizations, or entities directly involved with aviation safety may be invited to join the working group either as a full member or as an observer as decided by RASG-AFI Secretariat.

6.2.3 Roles and Responsibilities

a) ICAO Regional Offices as Secretariat
b) HRC Support Team members – provide technical expertise in analyzing and identifying achievable mitigation measures for identified safety risk areas in the AFI region.

6.2.4 Working methods/arrangements

The OSI-SST discharges the RASG-AFI work programme by working on defined subjects as per the RASG-AFI Procedural Handbook.

6.3 State Safety Programme Support Team (SSP – SST)

6.3.1 Purpose of the SSP Support Team

The purpose of the Team is to assist States establish and implement an effective State Safety Programme (SSP) to achieve the relevant RASG-AFI safety targets (AFI-RASP) and the Global Aviation Safety Plan (GASP) goals and targets:

Goal 3 - Implement effective State safety programmes (SSPs);
Goal 4 - Increase collaboration at the regional level ; and
Goal 5 - Expand the use of industry programmes.

In this respect, the team is required to:

a) Analyze data-driven safety risk areas identified by RASG-AFI using the Safety Performance Areas and Best Practices for ICAO, States and Industry as contained in the AFI-RASP and the current GASP.

b) Identify possible mitigation measures and recommend implementation actions.
c) Recommend establishment of achievable projects based on prioritized mitigation measures with well-defined deliverables (including metrics to assess the effectiveness of the proposed mitigation actions) and clear implementation timeframes established and proposed to RASG-AFI for further action. In this regard, consideration should be given to Organizational and Operational Issues, as well as Safety Performance Measurement.

6.3.2 Membership

- ICAO Member States of the RASG-AFI Region
- AAMAC
- AFCAC
- ASSA-AC
- BAGAIA
- BAGASOO
- CASSOA
- EASA
- iSASO
- URSAC
- Other representative organizations, or entities directly involved with aviation safety may be invited to join the working group either as a full member or observer as may be decided by the RASG-AFI Secretariat.

6.3.3 Roles and Responsibilities:

a) ICAO Regional Offices to serve as the Secretariat
b) SSP Support Team members – provide technical expertise in analyzing and identifying achievable mitigation measures for identified safety risk areas in the AFI region.

6.3.4 Working methods/arrangements:

The SSP-SST discharges the RASG-AFI work programme by working on defined subjects as per the RASG-AFI Procedural Handbook.

6.4 Air Navigation Services Safety Support Team (ANS – SST)

6.4.1 Purpose of the ANS Safety Support Team:

The purpose of the Team is to assist States to establish and maintain appropriate air navigation infrastructure to support safe aviation operations, this will include an effective and efficient Aeronautical Information Management system at both national and regional levels to achieve reliable aeronautical information from trusted sources; and the relevant AFI-RASP and current GASP targets and in particular:

Goal 4 - Increase collaboration at the regional level
Goal 6 - Ensure the appropriate infrastructure is available to support safe operations.

In this respect, the team is required to deal with issues related to:

a) Safety improvements in the areas of air navigation services (ANS) in the fields of Air Traffic Management (ATM), Procedures for Air Navigation Services — Aircraft Operations (PANS-OPS), Aeronautical Information Services (AIS), Aeronautical Charts (Chart), Communications, Navigation and Surveillance (CNS), Aeronautical Meteorology (MET), and Search and Rescue (SAR).

b) Data-driven analyses on safety risk areas identified by RASG-AFI using the Safety Performance Areas and Best Practices for ICAO, States and Industry and:

i. Share reports on missing flight plans among RASG-AFI Aviation stakeholders;
ii. Review current best practices in improving ANS safety and oversight and other relevant guidance materials;
iii. Review existing Safety Enhancement Initiatives (SEIs) related to ANS safety and oversight and, when available, detailed Implementation Plans, including outputs, developed by other regional aviation safety groups (including other RASGs, PIRGs);
iv. Develop and propose SEIs pertaining to ANS safety and oversight in the RASG-AFI;

v. Ensure coordination of activities with APIRG and its contributory bodies in the areas of safety implementation, where required;
vi. Analyse the List of Air Navigation Deficiencies.
vii. Implement facilities and procedures that enable the timely supply of required MET information to flight information Centres, Area Control Centres, Approach Control Units, Aerodrome Control towers, and Communication stations.
viii. Maintain close coordination with stakeholders, including aeronautical meteorological information users, World Meteorological Organization (MWO) and other Partners dealing with MET.

c) Identify possible mitigation measures and recommend implementation actions;
d) Recommend establishment of achievable projects based on prioritized mitigation measures with well-defined deliverables (including metrics to assess the effectiveness of the proposed mitigation actions) and clear timeframes established and proposed to RASG-AFI for further action. Consideration should also be given to Organizational and Operational Issues, as well as Safety Performance Measurement.

6.4.2 Membership:

- ICAO Member States of the RASG-AFI Region
- ACI
- AFCAC

- ASECNA
- ATNS
- CANSO
- IATA
- RSOOs
- WMO
- Other representative organizations, or entities directly involved with aviation safety may be invited to join the working group either as a full member or as an observer as decided by RASG-AFI Secretariat.

6.4.3 Roles and Responsibilities:

a) ICAO Regional Offices as Secretariat
b) ANS Support Team members – provide technical expertise in analyzing and identifying achievable mitigation measures for identified safety risk areas in the RASG-AFI region.

6.4.4 Working methods/arrangements:

The ANS-SST discharges the RASG-AFI work programme by working on defined subjects as per the RASG-AFI Procedural Handbook.

--- END ---