Kenya Civil Aviation Authority

NATIONAL AVIATION SAFETY PLAN

MARCH 2023

KENYA NATIONAL AVIATION SAFETY PLAN

Kenya is committed to enhancing aviation safety and to the resourcing of supporting activities. The purpose of this national aviation safety plan (NASP) is to continually reduce fatalities, and the risk of fatalities, through the development and implementation of a national aviation safety strategy. A safe aviation system contributes to the economic development of Kenya and its industries. The NASP proMinistry of Roads and Transportes the effective implementation of Kenya's safety oversight system, a risk-based approach to managing safety, as well as a coordinated approach to collaboration between Kenya and other States, regions and industry. All stakeholders are encouraged to support and implement the NASP as the strategy for the continuous improvement of aviation safety.

Kenya's National Aviation Safety Plan is in alignment with the ICAO *Global Aviation Safety Plan* (GASP, Doc 10004)

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1.0 Overview of the National Aviation Safety Plan (NASP)

1.1 The National Aviation Safety Plan (NASP) sets out the objectives, challenges, strategic priorities, and the safety actions to be taken by, or driven by the Kenya Civil Aviation Authority, the Aircraft Accident and Incident Investigation Department at the State Department for Transport, in collaboration with the aviation industry and agencies with safety critical responsibilities in Kenya.

1.2 The NASP is drawn as an action plan for the consideration and addressing of key aviation safety risks and challenges by the aviation industry and also complements the State Safety Programme (SSP) document, which articulates Kenya's aviation policy and regulatory perspective, values and commitments to achieve our safety objectives.

1.3 Kenya has a dedicated desire to contribute to safe and efficient air travel. The International Civil Aviation Organization (ICAO), through the Global Aviation Safety Plan (GASP) and other initiatives, advocates for a proactive approach to manage safety and has identified global safety objectives, high risk categories of events and desired outcomes. In this regard, the NASP is aligned to and supports the implementation of the ICAO GASP and the initiatives of the Regional Aviation Safety Group for Africa-Indian Ocean (RASG-AFI).

2.0 Structure of the NASP

2.1 This NASP presents the strategy for enhancing aviation safety for a period of three years from 2023 - 2025. It is comprised of five sections which includes:. the purpose of the NASP, Kenya's strategic approach to managing aviation safety, the national operational safety risks identified for the 2023-2025 NASP, other safety issues addressed in the NASP, and a description of how the implementation of the safety enhancement initiatives (SEIs) listed in the NASP is going to be monitored.

3.0 Relationship between the NASP and the State Safety Programme (SSP)

3.1 Through an effective SSP, Kenya identifies and mitigates national operational safety risks. The SSP provides safety information to the NASP. The SSP allows Kenya to manage its aviation activities in a coherent and proactive manner, measure the safety performance of its civil aviation system, monitor the implementation of the NASP's SEIs and address any identified hazards and deficiencies.

3.2 The NASP is one of the key documents produced as part of Kenya's SSP documentation. It is the means by which Kenya defines, and drives the implementation of SEIs generated by the SSP process and drawn from the ICAO GASP and the RASG-AFI. It also allows Kenya to determine initiatives to strengthen the SSP or otherwise needed to achieve its safety objectives. Safety intelligence gathered through the SSP also contributes to other national plans, such as the air navigation plan.

3.3 The NASP contributes to the State Safety objectives as outlined below:

- 3.3.1 Improve the safety of aviation operations in Kenya;
- 3.3.2 Strengthen Kenya's safety oversight capabilities;
- 3.3.3 Mitigate aviation safety risks, with the aim of reducing accidents and incidents involving entities under its safety oversight;

3.3.4 Enhance safety management capabilities of the aviation industry in Kenya to continuously improve safety performance and risk mitigation;

3.3.5 Contribute and collaborate effectively in international and regional fora to enhance the safety of international civil aviation.

3.4 Further information on Kenya's SSP can be found at . https://www.kcaa.or.ke/safety-security-oversight/aviation-safety/national-aviation-safety-plan

4.0 Responsibility for the NASP development, implementation and monitoring

4.1 The Kenya Civil Aviation Authority is responsible for the development, implementation and monitoring of the NASP, in collaboration with relevant State authorities, and with the national aviation industry. The NASP was developed in consultation with national operators and other stakeholders, and in alignment with the 2023-2025 edition of the GASP.

5.0 National safety issues, goals and targets

5.1 The NASP addresses the following safety issues:

5.1.1 **High-Risk Categories (HRCs) of Occurrences:**

5.1.1.1 These types of occurrences in no particular order are in line with the GASP and are deemed global HRCs (previously referred to as "global safety priorities") were selected based on actual fatalities, high fatality risk per accident or the number of accidents and incidents. Based on results from the analysis of safety data collected in the last five years, as well as from ICAO and other aviation bodies, they are as follows:

(a) Controlled flight into terrain (CFIT)
(b) Loss of control in-flight (LOC-I)
(c) Mid-air collision (MAC)
(d) Runway excursion (RE)
(e) Runway incursion (RI)
(f) Bird Strikes (BWI)

5.1.2 **Other National Safety Issues**

5.1.2.1 The other national safety issues were identified through a data-driven approach based on safety oversight and USOAP data. These issues are typically organizational in nature and relate to challenges associated with the conduct of the State safety oversight functions, implementation of SSP and the level of SMS implementation by industry.

5.1.2.2 The safety deficiencies are listed as follows:

- Lack of effective oversight of General Aviation (GA) operations
- Inconsistency in the conduct of safety oversight activities i.e lack of standardization of safety oversight processes.
- Lack of sufficient safety oversight capacity (personnel & resources)

- Lack of effective implementation of the SSP
- Lack of effective implementation of aerodrome design and operations requirements.
- Frequent failure of air navigation equipment
- Insufficient capacity of air navigation services and aerodrome personnel
- Inadequate aircraft accident and incident investigation capacity

5.1.2.3 In order to address the issues listed above and enhance safety at the national level, the NASP contains the following goals and targets:

Table I-1. NASP goals, targets and indicators

KENYA ASPIRATIONAL SAFETY GOAL "ZERO FATALITIES BY 2030 AND BEYOND"			
GOAL	TARGET		INDICATOR
Goal 1: Achieve a continuous reduction of operational safety risks	1.1	Maintain a decreasing trend of national accident rate	• TCAS/RA incidents per year • EGPWS trigger reports per year • Number of Loss of Control–In Flight (LOC-I) accidents per year • UPRT per year • Pilot incapacitation incidents per year • Go around due to unstable approach per 100 movements • Rejected take-off per 100 movements • Runway incursion incidents per year • BWI incidents per quarter/per aerodrome
Goal 2: Strengthen safety oversight capabilities	2.1	Kenya intends to improve its score of 75% for the effective implementation (EI) of the critical elements (CEs) of the State's safety oversight system (with focus on priority PQs) as follows: By 2026 – 85 per cent By 2030 – 95 per cent	• Kenya's *Overall EI score.* • *Percentage of required Corrective Action Plans submitted* • *Percentage of completed Corrective Action Plans*
Goal 3: Implement an effective State safety programme (SSP)	3.1	By 2023, Kenya to fully implement the foundation of an SSP	• Percentage of required corrective action plans related to the State safety programme foundation Protocol Questions submitted • Percentage of required corrective action plans related to the State safety programme foundation Protocol Questions completed
	3.2	By 2025, Kenya to implement an effective SSP and achieve "present" maturity level	

			• Level of maturity achieved in SSP implementation assessment (SSPIA) questions • percentage of SMS implementation score > 75% for all service providers required to implement an SMS
		By 2024, Kenya to publish a national aviation safety plan (NASP).	Kenya's national aviation safety plan published
Goal 4: Increase collaboration at the regional and international level	4.1	Increase collaboration activities and provide support to States seeking assistance to strengthen their safety oversight capabilities	• Number of States seeking assistance • Number of States that have received assistance
	4.2	By 2025, Kenya to actively contribute information on safety risks, including SSP safety performance indicators (SPIs), to the AFI regional aviation safety group (RASG-AFI)	• Participation in RASG-AFI Safety information sharing initiatives
	4.3	By 2025, Kenya to actively lead RASGs' safety risk management activities	• Number of RASG safety risk management activities led by Kenya • Participation in development of the regional aviation safety plan
Goal 5: Expand the use of industry programmes	5.1	By 2025, all service providers to use globally harmonized SPIs as part of their safety management system (SMS)	• Percentage of service providers that have submitted acceptable State SPIs
	5.2	By 2025, increase the number of service providers participating in the corresponding ICAO-recognized industry assessment programmes	• Number of service providers participating in the corresponding ICAO-recognized industry assessment programmes
Goal 6: Ensure the appropriate infrastructure is available to support safe operations	6.1	By 2025, Kenya to implement the air navigation masterplan and airport core infrastructure	• Percentage of Air Navigation masterplan implementation • Percentage of airport masterplans implementation

6.0 Operational Context

6.1 There are 521 aerodromes and 21 heliports in Kenya, including 3 certified international aerodromes. The airspace is classified into Class A, C, D, E & G. There are currently 83 air operator certificates (AOCs) issued by Kenya, and of those there are 59 issued to operators conducting international commercial air transport operations.

6.2 Kenya also has 5 operators, who operate domestic air taxi services, primarily on turboprop aircraft, as well as 6 helicopter operators and 7 Balloon operators.

6.3 There are 88 local Approved Maintenance Organisation (AMO) and 50 Foreign Approved Maintenance Organisations.

6.4 ATOs

OPERATORS	International Flights Aeroplane	International Flights Helicopter	International Flights Aeroplane and Helicopters	Domestic Flights Aeroplane	Domestic Flights Helicopters	Other (Balloon)	TOTAL
	51	4	4	5	6	7	77

APPROVED TRAINING ORGANIZATIONS			
FLIGHT CREW TRAINING	AIRCRAFT MAINTENANCE ENGINEER TRAINING	AIR TRAFFIC CONTROL TRAINING	FLIGHT OPERATIONS OFFICERS TRAINING
13	1	1	9
Total number of ATOs is 17 N/B Some ATOs train more than 1 approved course.			

****** Information provided is current as at March 2023**

7.0 PURPOSE OF KENYA'S NATIONAL AVIATION SAFETY PLAN

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

7.2 The Kenya civil aviation master plan addresses all aspects of air transport at the State-level with the objective of providing a clear and comprehensive planning and implementation strategy for the future development of the entire civil aviation sector. The NASP contains in-depth information specific to aviation safety aspects that are referenced in the Kenya civil aviation master plan.

7.3 The NASP has been developed using international safety goals and targets and HRCs from the GASP. The SEIs listed in the NASP support the improvement of safety at the wider regional and international levels and include several actions to address specific safety risks and recommended SEIs. Kenya has adopted these SEIs and has included them in this plan.

8.0 STRATEGIC APPROACH TO MANAGING AVIATION SAFETY

8.1 The NASP presents the SEIs derived from the SSP, including the safety risk management process and safety data collection and processing systems, as well as the work undertaken by service providers in the development and implementation of their safety management systems (SMS). This plan is developed and maintained by Kenya Civil Aviation Authority, in coordination with all stakeholders and is updated at least every three years.

8.2 The NASP includes the following national 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 GASP and include additional national safety goals, targets and indicators.

8.3 The SEIs in this plan are implemented through existing safety oversight capabilities and the service providers' SMS. SEIs derived from the ICAO global aviation safety roadmap were identified to achieve the national safety goals and targets presented in the NASP. Some of the national SEIs are linked to overarching SEIs at the regional and international levels and help to enhance safety globally. The full list of the SEIs is presented in Appendix I and II to the NASP.

8.4 The NASP also addresses emerging issues which includes 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 Kenya remains vigilant on emerging issues to identify potential safety risks, collect relevant data and proactively develop mitigations to address them. The NASP addresses the following identified emerging issues:

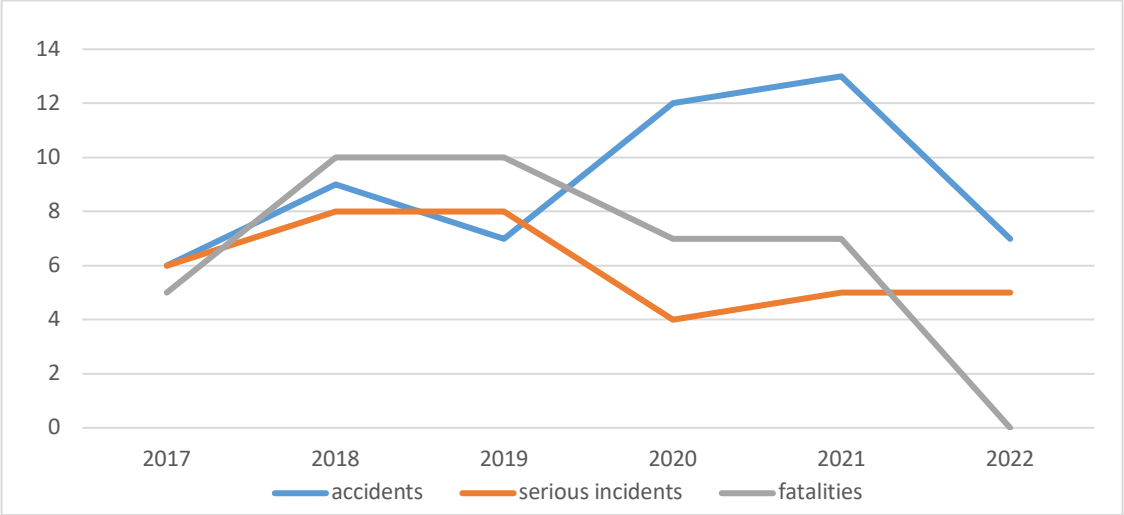
8.4.1 Health emergency/pandemic
8.4.2 Unmanned aircraft systems (UAS) operations
8.4.3 Cyber threats
8.4.4 Advancements in technology
8.4.5 EAC upper FIR airspace

9.0 NATIONAL OPERATIONAL SAFETY RISKS

9.1 The NASP includes SEIs that address national operational safety risks, derived from lessons learned from operational occurrences and a data-driven approach. These SEI include actions such as: rule-making; policy development; targeted safety oversight activities; safety data analysis; and safety promotion.

9.2 Kenya publishes an Annual Safety Report, that provides data on safety occurrences including accidents and incidents. The summary of accidents and serious incidents in the last five years for aircraft registered in Kenya is shown in the table below.

Year	accidents	serious incidents	fatalities	Total aircraft movements	Accident Rate	fatality Rate
2017	6	6	5	351825	0.17053933	0.14211611
2018	9	8	10	383344	0.23477608	0.26086231
2019	7	8	10	375434	0.18645088	0.2663584
2020	12	4	7	197428	0.60781652	0.35455964
2021	13	5	7	253981	0.51184931	0.27561117
2022	7	5	0	323421	0.21643616	0



9.3 The following five global High-Risk Categories (HRCs) of occurrences were considered of the utmost priority because of the number of fatalities and risk of fatalities associated with such events and have been incorporated as the national operational safety risks.

9.3.1 Controlled flight into terrain (CFIT)
9.3.2 Loss of Control in flight (LOC-I)
9.3.3 Mid-Air Collision (MAC)
9.3.4 Runway Excursion (RE)
9.3.5 Runway Incursion (RI)

9.4 In addition to the national operational safety risks listed above, the following additional category of operational safety risks have been identified based on analyses from mandatory and voluntary reporting systems, accident and incident investigation reports, and safety oversight activities:

9.4.1 Bird and wildlife strikes (BWI)

In order to address the national operational safety risks listed above, the following contributing factors leading to HRCs were identified:

A. HRC 1: Controlled flight into terrain (CFIT)

- Loss of situational awareness particularly in the vertical plane
- Lack of familiarity with the approach or misreading of the approach plate
- Weather - rain, turbulence, and icing and poor visibility particularly at night can contribute to disorientation and loss of situational awareness
- Approach design and documentation - The depiction of an approach, and particularly step-down fixes, on Terminal Approach Procedure (TAP) plates may not be clear.

- Failure to use Standard Phraseology leading to confusion and misunderstanding.
- Pilot fatigue and disorientation
- Unsafe clearances issued by a controller
- Aircraft equipment failure
- Inflight contingencies

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

- Pilot/human induced: improper procedure, spatial disorientation, poor energy management, distraction, improper training, poor design
- Environmentally induced: weather, icing, wake vortex.
- Systems induced: aircraft systems failures, poor design.

C. HRC 3: Mid-air Collision (MAC)

- Controller deficiencies e.g., competence, proficiency and currency
- Traffic conditions - traffic density, complexity, mixture of aircraft types and capabilities, etc.
- ATC performance related to workload, teamwork, procedures and commitment, as well as the influence of ANSPs' safety management.
- Flight crew training and corporate culture related to workload, competence, team-work, procedures and commitment and the influence of aircraft operator's safety management
- ATC systems - flight data processing, communication, STCA, etc., as well as the interaction related to the human operator and the aircraft systems, and the procurement policy of the ANSP. Aircraft equipment - autopilots, transponders and ACAS, but also aircraft performance (e.g., rate-of-climb) and their physical size.
- Inadequate Navigation infrastructure - both coverage and quality
- Unreliable communication infrastructure/equipment
- Surveillance – lack of adequate coverage and quality
- Flight plan processing - efficiency and reliability of flight plan submission, approval and distribution
- Airspace - complexity of airspace design, route layout, extent of controlled or uncontrolled airspace, proximity of military operational or training areas, etc.
- Flight in adverse environmental conditions that may influence conflict management and collision avoidance"
- Weather - This includes the occurrence of IMC conditions, storm activity and other turbulence that may influence conflict management and collision avoidance.
- The lack of, inadequate or non-implementation of coordination procedures (LOPs)
- Use of non-standard phraseology

- Lack of the English language proficiency for pilots and air traffic controllers/communicators
- Non-adherence to procedures and ATC clearances and instructions
- Unreliable flight procedures
- Failure of aircraft equipment
- Flight crew inappropriate response to an ACAS RA, or mishandling of a response to an ACAS RA.

D. HRC 4: Runway Excursion (RE)

- Ineffective SOPs
- Failure to adhere to the appropriate SOPs
- Long/floated/bounced/firm/off-centre/crabbed landing
- Inadequate approach procedures design
- Inadequate regulatory oversight
- Wind velocity headwind or crosswind components exceptionally variable and/or in the vicinity permitted aircraft maxima.
- Poor and fluctuating forward visibility.
- Runway contaminated by water, ice, snow or slush, whether or not this status correctly advised in advance
- Crew incompatibility
- Poor crew management
- Spatial disorientation
- Inadequate flight crew training
- Aircraft system failure

E. HRC 5: Runway Incursion (RI)

- Weather - Low visibility may increase the chance of flight crew becoming disorientated and unsure of their position whilst taxying.
- Complex or inadequate aerodrome design.
- Multiple Simultaneous Line-ups.
- Conditional Clearances when the condition in the clearance is not followed
- Simultaneous Use of Intersecting Runways.
- Late Issue of or late changes to Departure Clearances.
- Use of Non-Standard Phraseology, non-adherence to Standard Phraseology or call sign confusion/mix-up
- Concurrent Use of More than One Language for ATC communications.
- Lack of English Language proficiency
- Pilot and/or controller workload
- Inadequate manoeuvring area driver training and assessment programme
- Distractions

F. HRC 6: Bird Strikes (BWI)

- Human settlements in the close proximity of the aerodromes
- Garbage dumpsites and landfills in close proximity to the aerodromes

- Migration of Birds across the runways of aerodromes
- Location of waterbodies in close proximity to aerodromes
- Presence of bird attractants within the airports like insects, food waste, water in abandoned projects.
- Abattoirs and fish drying activities in close proximity of the aerodromes

Note.

The full list of the Operational SEIs is presented in the Appendix I to the NASP.

10.0 OTHER SAFETY ISSUES

10.1 In addition to the operational safety risks listed in the NASP, Kenya has identified other safety issues and initiatives selected for the NASP. These are given priority in the NASP since they are aimed at enhancing and strengthening safety oversight capabilities and the management of aviation safety.

10.2 eight critical elements (CEs) of a safety oversight system are defined by ICAO. Kenya is committed to the effective implementation of these eight CEs, as part of its overall safety oversight responsibilities, which emphasize the commitment to safety in respect of its aviation activities. The eight CEs are presented in the figure below.

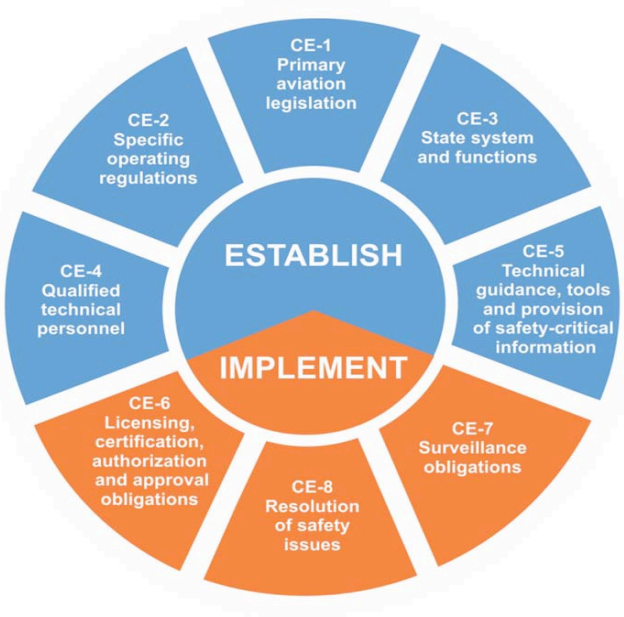


Figure 1. Critical elements of a Kenya's safety oversight system

The latest ICAO activities, which aim to measure the effective implementation of the eight CEs of Kenya's safety oversight system, as part of the ICAO Universal Safety Oversight Audit Programme (USOAP), resulted in the following scores:

Overall EI score							
75.41%							
EI score by CE							
CE-1	CE-2	CE-3	CE-4	CE-5	CE-6	CE-7	CE-8
75.86%	81.82%	75.44%	79.49%	70.09%	86.21%	64.84%	50%
EI score by audit area[1]							
LEG	ORG	PEL	OPS	AIR	AIG	ANS	AGA
85.71%	60%	81.16%	74.36%	81.19%	42.68%	80%	87.16%

10.3 The safety oversight index (SOI) of a State is an ICAO indicator of its safety oversight capabilities. Every State audited by ICAO has an SOI which is a number greater than zero where "1" represents a level at which the safety oversight capabilities of a State indicate the minimum expected capabilities considering the number of departures as an indication of the size of that State's aviation system. The calculations conducted by ICAO of Kenya's SOI have resulted in the following scores:

Overall SOI score	**Score in the area of Operations**	**Score in the area of Air Navigation**	**Score in the area of Support Functions**
1.21	1.12	1.44	1.06

10.4 The following three other safety issues 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 years, the SSP, as well as on the basis of regional analysis conducted by CASSOA, AFCAC and RASG-AFI.

10.5 These issues are typically organizational in nature and relate to challenges associated with the conduct of States' safety oversight functions, implementation of SSP and the level of SMS implementation by service providers. They take into consideration organizational culture, policies and procedures within the Kenya Civil Aviation Authority and the Aircraft Accident and Incident Investigation Department and those of service providers.

[1] 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).

10.5.1 Enhancement of the State Safety Oversight (SSO) system
10.5.2 Establishment of an effective State Safety Programme (SSP)
10.5.3 Establishment of an efficient aircraft accident and incident investigation entity

10.6 In order to address the issues listed above, Kenya 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 II.

11.0 MONITORING IMPLEMENTATION

11.1 Kenya will continuously monitor the implementation of the SEIs listed in the NASP and measure safety performance of the civil aviation system, to ensure the intended results are achieved, using the mechanisms presented in the appendix to this plan.

11.2 Additionally, Kenya will review the NASP every three years or earlier, if required, to keep the identified operational safety risks, safety issues and selected SEIs updated and relevant. The Kenya Civil Aviation Authority will periodically review the safety performance of the initiatives listed in the NASP to ensure the achievement of national safety goals and targets.

11.3 As required, Kenya will seek the support of the Africa-Indian Ocean Regional Aviation Safety Group (RASG-AFI), the ICAO Eastern and Southern African (ESAF) Office, Air Operators, Air Navigation Service Providers (ANSPs), Aerodrome Operators etc. to ensure the timely implementation of SEIs to address safety deficiencies and mitigate risks. Through close monitoring of the SEIs, Kenya will make adjustments to the NASP and its initiatives, if needed, and update the NASP accordingly.

11.4 Kenya will use the indicators listed in this plan to measure safety performance of the civil aviation system and monitor each national safety target. A periodic annual safety report will be published to provide stakeholders with relevant up-to-date information on the progress made in achieving the national safety goals and targets, as well as the implementation status of the SEIs.

11.5 In the event that the national safety goals and targets are not met, the root causes will be presented. When critical safety risks are identified, reasonable measures will be taken to mitigate them as soon as practicable, possibly leading to an unscheduled revision of the NASP.

11.6 A standardized approach will be adopted to provide information at the regional level, for reporting to the RASG. This will be done through the designated focal

point (State Safety Programme Coordinator) using the applicable forms and report templates. This will allow the region to receive information and assess safety risks using common methodologies.

11.7 Any questions regarding the NASP and is initiatives, and further requests for information may be addressed to the following:

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www.kcaa.or.ke

Appendix I

HRC 1: CONTROLLED FLIGHT INTO TERRAIN (CFIT)

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 national accident rate.							
Safety enhancement initiative	**Action**	**Timeline**	**Responsible entity**	**Stakeholders**	**Metrics / Indicators**	**Priority**	**Monitoring Activity**
SEI - 1: Mitigate contributing factors to the risk of CFIT	1. Implement the following CFIT safety actions: a) Ensure aircraft are equipped with enhanced ground proximity warning system (EGPWS) in accordance with Civil Aviation (Instruments & equipment) Regulations		KCAA	Aircraft operators, ATOs	No. of CFIT accidents per year EGPWS triggers per year	High	surveillance of AOCs and ANSP activities
	b) Promote the wider use of EGPWS beyond the requirements of Civil Aviation		KCAA	Aircraft operators, ATOs			

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 national accident rate.							
Safety enhancement initiative	**Action**	**Timeline**	**Responsible entity**	**Stakeholders**	**Metrics / Indicators**	**Priority**	**Monitoring Activity**
	(Instruments & equipment) Regulations						
	c) Review of the AIC to increase adherence to TAWS warning procedures		KCAA	Aircraft Operators, ATOs			
	d) Promote greater awareness of approach risks e.g. offset procedures, poor visibility, etc. Use of ATOs for awareness. Mountainous flying included in Flight training syllabus		KCAA	Aircraft Operators, ATOs			
	e) Consider the implementation of continuous		KCAA	ANSP, Aircraft Operators, ATOs			

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 national accident rate.							
Safety enhancement initiative	**Action**	**Timeline**	**Responsible entity**	**Stakeholders**	**Metrics / Indicators**	**Priority**	**Monitoring Activity**
	descent final approaches (CDFA) and CDO implementation.						
	f) Consider the implementation of minimum safe altitude warning (MSAW) systems.		KCAA	ANSP, CAA			
	g) Ensure the timeliness of updates and accuracy of Terrain and Obstacle Data (TOD).		KCAA	ANSP, CAA			
			KCAA, AAID				

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 national accident rate.							
Safety enhancement initiative	**Action**	**Timeline**	**Responsible entity**	**Stakeholders**	**Metrics / Indicators**	**Priority**	**Monitoring Activity**
	2. 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 (VRS) and accident/incident investigations.	Annual Review		AAID, ANSP, Aerodrome operators, Aircraft operators, ATOs	No. of CFIT accidents per year EGPWS triggers per year		safety trend analysis
	3. Identify additional contributing factors, for example:	Continuous Process	AAID, ANSP, Aerodrome Operators, Aircraft	AAID, ANSP, Aerodrome operators, Aircraft operators, ATOs			

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 national accident rate.							
Safety enhancement initiative	**Action**	**Timeline**	**Responsible entity**	**Stakeholders**	**Metrics / Indicators**	**Priority**	**Monitoring Activity**
	a) Flight in adverse environmental conditions b) Approach design and documentation (e.g. approaches with vertical guidance (APV) or localizer performance with verticall guidance (LPV) approaches) c) Phraseology used (standard vs. non-standard) d) Pilot fatigue and disorientation e) ATC fatigue		Operators, ATOs				

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 national accident rate.							
Safety enhancement initiative	**Action**	**Timeline**	**Responsible entity**	**Stakeholders**	**Metrics / Indicators**	**Priority**	**Monitoring Activity**
	4. Develop and implement further SEIs to mitigate the risk of the identified contributing factors, if any, for CFIT	Continuous Process	KCAA, Industry	AAID, ANSP, Aerodrome operators, Aircraft operators, ATOs			
	5. Conduct continuous evaluations of the performance of the SEIs	Annual Evaluations	KCAA Industry	AAID, ANSP, Aerodrome operators, Aircraft operators, ATOs			
	6. Implement the following CFIT safety actions: a) Equip aircraft with EGPWS	Continuous Process	Aircraft operators, ATOs	KCAA, Aircraft operators, ATOs			
	b) Increase adherence to EGPWS warning procedures	Continuous Process	Aircraft operators, ATOs	KCAA, Aircraft operators, ATOs			

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 national accident rate.							
Safety enhancement initiative	**Action**	**Timeline**	**Responsible entity**	**Stakeholders**	**Metrics / Indicators**	**Priority**	**Monitoring Activity**
	c) Develop greater awareness of approach risks	Continuous Process	Aircraft operators, ATOs	KCAA, Aircraft operators, ATOs			
	d) Promote CDFA	Continuous Process	Aircraft operators, ATOs	KCAA, Aircraft operators, ATOs			
	e) Utilize MSAW systems	Continuous Process	ANSP	KCAA, ANSP			
	f) Utilize up-to-date TOD	Continuous Process	Aircraft operators, ATOs	KCAA, ANSP, Aircraft operators, ATOs			
	7. Validate the effectiveness of the SEIs presented in this roadmap through the analysis of flight data monitoring (FDM) and pilot reports	Annual Review	SSPICE/NASP committee	KCAA, ANSP, Aircraft operators, ATOs			

HRC 2: LOSS OF CONTROL IN-FLIGHT (LOC-I)

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 global accident rate.							
Safety enhancement initiative	**Action**	**Timeline**	**Responsible entity**	**Stakeholders**	**Metrics / Indicators**	**Priority**	**Monitoring Activity**
SEI - 2: Mitigate contributing factors to LOC-I accidents and incidents	1. Implement the following LOC-I safety actions: a) Require upset prevention and recovery training in all full flight simulator type conversion and recurrent training programmes	Continuous Process	KCAA	Air Operators		High	Surveillance of AOCs Training programmes
	b) Require more time devoted to training for the pilot monitoring role	Dec-23	KCAA	Air Operators	Approved Technical Guidance Material to the industry	High	Surveillance of AOCs Training programmes
	2. Validate the effectiveness of the SEIs in the industry through MORs and VRS	Continuous	KCAA	Air Operators	Number of LOC-I incidents per year	High	annual reviews

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 global accident rate.							
Safety enhancement initiative	**Action**	**Timeline**	**Responsible entity**	**Stakeholders**	**Metrics / Indicators**	**Priority**	**Monitoring Activity**
	systems and accident/incident investigations						
	3. Identify additional contributing factors, for example: a) Distraction b) Adverse weather c) Complacency d) Inadequate standard operating procedures (SOPs) for	Continuous	KCAA, Industry	Air Operators		High	Surveillance of AOCs Training programmes, conducting en-route inspections

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 global accident rate.							
Safety enhancement initiative	**Action**	**Timeline**	**Responsible entity**	**Stakeholders**	**Metrics / Indicators**	**Priority**	**Monitoring Activity**
	effective flight management e) Insufficient height above terrain for recovery f) Lack of awareness of or competence in procedures for recovery from unusual aircraft attitudes g) Inappropriate flight control inputs in response to a sudden awareness of an abnormal bank angle				Number of LOC-I incidents per year		

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 global accident rate.							
Safety enhancement initiative	**Action**	**Timeline**	**Responsible entity**	**Stakeholders**	**Metrics / Indicators**	**Priority**	**Monitoring Activity**
	4. Develop and implement further SEIs to mitigate the risk of the identified contributing factors, if any, for LOC-I, for example: a) Increase the effectiveness of regulatory oversight b) Review regulations	Annual	KCAA, industry	Air Operators	Number of LOC-I incidents per year	High	Surveillance
	5. Implement the following LOC-I safety actions: a) Aircraft upset prevention recovery training in all full flight simulator type conversion and recurrent training programmes	Continuous	Industry	Air Operators	Number of LOC-I incidents per year	High	internal audit of Operator training programmes

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 global accident rate.							
Safety enhancement initiative	**Action**	**Timeline**	**Responsible entity**	**Stakeholders**	**Metrics / Indicators**	**Priority**	**Monitoring Activity**
	b) More time devoted to training multi-crew pilots for the monitoring role	Continuous	Industry	Air Operators			
	c) Training on manual aircraft handling of approach to stall and stall recovery (including at high altitude)	Continuous	Industry		Number of LOC-I incidents per year	high	Certification and Surveillance of AOCs Training programmes
	d) Recurrent training on principles of flight	Continuous	Industry				
	e) Simulator fidelity	Continuous	KCAA, Industry				Inspections and surveillance of FSTDs

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 global accident rate.							
Safety enhancement initiative	**Action**	**Timeline**	**Responsible entity**	**Stakeholders**	**Metrics / Indicators**	**Priority**	**Monitoring Activity**
	6. Conduct continuous evaluations of the performance of the SEI	Continuous	SSPICE/NASP Committee	CAA, Industry	Number of LOC-I incidents per year	High	annual NASP review

HRC 3: MID-AIR COLLISION (MAC)

HRC 3: MID-AIR COLLISION (MAC)							
Goal 1: Achieve a continuous reduction of operational safety risks							
Target 1.1: Maintain a decreasing trend of accident rate.							
Safety enhancement initiative	**Action**	**Timeline**	**Responsible entity**	**Stakeholders**	**Metrics / Indicators**	**Priority**	**Monitoring Activity**
SEI - 3: Mitigate contributing factors to MAC accidents and incidents	1. Implement the following MAC safety actions: a) Establish guidance and regulations to ensure aircraft are equipped with airborne collision avoidance system (ACAS), in accordance with Civil Aviation (Instrument & Equipment) Regulations	Implemented	KCAA	Air Operators	Regulations and guidance promulgated	High	surveillance during C o f A inspections
	b) Ensure adherence to ACAS warning procedures	Implemented	KCAA	Air Operators	Number of TCAS RA reported	High	Analysis of TCAS-RA reports
	c) ProMinistry of Roads and Transporte the	2024	KCAA	ANSP & CAA	Number of TCAS RA reported	High	Surveillance, Review of MORs

HRC 3: MID-AIR COLLISION (MAC)							
Goal 1: Achieve a continuous reduction of operational safety risks							
Target 1.1: Maintain a decreasing trend of accident rate.							
Safety enhancement initiative	**Action**	**Timeline**	**Responsible entity**	**Stakeholders**	**Metrics / Indicators**	**Priority**	**Monitoring Activity**
	improvement of air traffic control (ATC) systems, procedures and tools to enhance conflict management						
	d) ProMinistry of Roads and Transporte the improvement of communications systems and procedures	2024	KCAA	ANSP	Existence of a current ANS Masterplan, percentage of the masterplan implemented	Medium	Surveillance of the ANSP
	2. Validate the effectiveness of the SEIs in the industry through MORs and VRS systems and accident/incident investigations	Continuous	KCAA	ANSP, Aircraft operators, AAID	Number of accidents and serious incidents reported per year	High	Surveillance of ANSP and AOC activities, Investigation of aircraft accidents and incidents

HRC 3: MID-AIR COLLISION (MAC)							
Goal 1: Achieve a continuous reduction of operational safety risks							
Target 1.1: Maintain a decreasing trend of accident rate.							
Safety enhancement initiative	**Action**	**Timeline**	**Responsible entity**	**Stakeholders**	**Metrics / Indicators**	**Priority**	**Monitoring Activity**
	3. Identify additional contributing factors: a) Ensure controller competence, currency and proficiency are maintained	Continuous	KCAA	ANSP	Number of controller proficiency checks done in a year	High	Surveillance of ANSP
	b) Promote regular scanning for Traffic conditions - traffic density, complexity, mixture of aircraft types and capabilities, etc. Consider TCAS-TA	Continuous	KCAA	ANSP	Number of refresher trainings done	Medium	Surveillance of ANSP
	c) Promote ATC training to enhance performance related to workload, teamwork, procedures and commitment, as	Continuous	KCAA	ANSP	Number of officers trained and sensitized on the ANSPs SMS within a year	Medium	Surveillance of ANSP

HRC 3: MID-AIR COLLISION (MAC)							
Goal 1: Achieve a continuous reduction of operational safety risks							
Target 1.1: Maintain a decreasing trend of accident rate.							
Safety enhancement initiative	**Action**	**Timeline**	**Responsible entity**	**Stakeholders**	**Metrics / Indicators**	**Priority**	**Monitoring Activity**
	well as the influence of ANSPs' safety management						
	d) Promote Flight crew training and corporate culture related to workload, competence, team-work, procedures and commitment and the influence of aircraft operator's safety management	Continuous	KCAA	Air Operators, ATOs	CRM, SMS trainings conducted	high	surveillance of air operators and ATOs
	e) Ensure ATC systems - flight data processing, communication, STCA, etc., as well as the interaction related to the human operator	Continuous	KCAA	ANSP	Number of flight processing equipment failure and STCAs reported in a year	Medium	Surveillance of ANSP

HRC 3: MID-AIR COLLISION (MAC)							
Goal 1: Achieve a continuous reduction of operational safety risks							
Target 1.1: Maintain a decreasing trend of accident rate.							
Safety enhancement initiative	**Action**	**Timeline**	**Responsible entity**	**Stakeholders**	**Metrics / Indicators**	**Priority**	**Monitoring Activity**
	and the aircraft systems, and the procurement policy of the ANSP work efficiently						
	f) Aircraft equipment - autopilots, transponders and ACAS, but also aircraft performance (e.g., rate-of-climb) and their physical size.						
	g) Ensure the Navigation, communication and surveillance infrastructure is adequate - both coverage and quality	Continuous	KCAA & ANSP	ANSP	Percentage of the airspace covered with CNS infrastructure and percentage of time the CNS infrastructure is	High	surveillance of the ANSP

HRC 3: MID-AIR COLLISION (MAC)							
Goal 1: Achieve a continuous reduction of operational safety risks							
Target 1.1: Maintain a decreasing trend of accident rate.							
Safety enhancement initiative	**Action**	**Timeline**	**Responsible entity**	**Stakeholders**	**Metrics / Indicators**	**Priority**	**Monitoring Activity**
					available and reliable		
	h) Promote effective Flight plan processing - efficiency and reliability of flight plan submission, approval and distribution	Continuous	KCAA, ANSP, ATOs & Air Operators	ANSP, Aircraft operators	Number of flight plan errors reported	Medium	Surveillance of ANSP and AOC
	i) Ensure that the Airspace structure is promulgated documenting the complexity of airspace design, route layout, extent of controlled or uncontrolled airspace,	Continuous	KCAA, ANSP	ANSP, Military, Air Operators, ATOs	promulgation of airspace structure/charts , currency of charts	Medium	Surveillance of ANSP

HRC 3: MID-AIR COLLISION (MAC)							
Goal 1: Achieve a continuous reduction of operational safety risks							
Target 1.1: Maintain a decreasing trend of accident rate.							
Safety enhancement initiative	**Action**	**Timeline**	**Responsible entity**	**Stakeholders**	**Metrics / Indicators**	**Priority**	**Monitoring Activity**
	proximity of military operational or training areas, etc.						
	j) Ensure prevailing Weather conditions are shared with operators in a timely manner - This includes the occurrence of IMC conditions, storm activity and other turbulence that may influence conflict management and collision avoidance	Continuous	KCAA, ANSP, ATOs & Air Operators	ANSP	timely issuance of weather information	Medium	Surveillance of ANSP

HRC 3: MID-AIR COLLISION (MAC)							
Goal 1: Achieve a continuous reduction of operational safety risks							
Target 1.1: Maintain a decreasing trend of accident rate.							
Safety enhancement initiative	**Action**	**Timeline**	**Responsible entity**	**Stakeholders**	**Metrics / Indicators**	**Priority**	**Monitoring Activity**
	k) Ensure Flight crew respond to an TCAS RA, as per established procedure.	Continuous	Air operators	ANSP, Aircraft operators, AAID	Number of TCAS-RA reports	High	Surveillance of ANSP, Air operators and investigation of TCAS-RA incidents
	l) Ensure establishment of LOPs and implementation of coordination procedures	Continuous	KCAA, ANSP	ANSP	Number of LOPs established and implemented	High	Surveillance of ANSP
	m) Ensure air traffic controllers and pilots use standard phraseology	Continuous	KCAA, air operators, ATOs	ANSP, air operators, ATOs	Number of incidences/accidents attributed to lack of use of non-standard phraseology	High	Surveillance of ANSP and AOC activities, Investigation of aircraft accidents and incidents

HRC 3: MID-AIR COLLISION (MAC)							
Goal 1: Achieve a continuous reduction of operational safety risks							
Target 1.1: Maintain a decreasing trend of accident rate.							
Safety enhancement initiative	**Action**	**Timeline**	**Responsible entity**	**Stakeholders**	**Metrics / Indicators**	**Priority**	**Monitoring Activity**
	n) Promote adherence to procedures and ATC clearances and instructions	Continuous	KCAA, air operators, ATOs	ANSP, AOC, ATOs	Number of incidents caused by non-adherence to procedures and ATC clearances	Medium	Surveillance of ANSP and AOC
	o) Ensure flight procedures developed and published are reliable	Continuous	KCAA, ANSP	KCAA, ANSP, air operators, ATOs	Number incidents attributed to unreliable flight procedures	Medium	Surveillance of ANSP
	p) Ensure aircraft equipment are reliable	Continuous	KCAA, Air Operators, ATOs	CAA, air operators, ATOs	Number of inflight equipment failure reported in a year	High	surveillance of air operators
	4. Implement the following MAC safety actions: a) Equip aircraft with ACAS	Continuous	Air Operators, ATOs	Air operators, ATOs	compliance to C of A requirements	High	surveillance during C of A inspections

HRC 3: MID-AIR COLLISION (MAC)							
Goal 1: Achieve a continuous reduction of operational safety risks							
Target 1.1: Maintain a decreasing trend of accident rate.							
Safety enhancement initiative	**Action**	**Timeline**	**Responsible entity**	**Stakeholders**	**Metrics / Indicators**	**Priority**	**Monitoring Activity**
	b) Increase adherence to ACAS warning procedures	Continuous	Air operators, ATOs	Air operators, ATOs	Number of TCAS-RA reports Viz adherence	High	Internal audit of flight procedures
	c) Consider the implementation of STCA, including STCA suitable for terminal areas	Continuous	ANSP	KCAA, ANSP	Number of terminal areas served with STCA	Medium	Surveillance of the ANSP
	d) Improve aircraft systems to alert pilots to any non-availability of transponders and ACAS where applicable	Continuous	KCAA, Air Operators, ATOs	KCAA, Air Operators, ATOs	Number of TCAS-RA reports	Medium	surveillance during C of A inspections
	e) Improve ATC systems, procedures and tools to enhance conflict management - this can include predictability of aircraft	Continuous	ANSP	CAA, ANSP	Number of TCAS-RA reports	Medium	Surveillance of ANSP

HRC 3: MID-AIR COLLISION (MAC)							
Goal 1: Achieve a continuous reduction of operational safety risks							
Target 1.1: Maintain a decreasing trend of accident rate.							
Safety enhancement initiative	**Action**	**Timeline**	**Responsible entity**	**Stakeholders**	**Metrics / Indicators**	**Priority**	**Monitoring Activity**
	trajectories, so that conflicts can be predicted and resolved at an earlier stage, using medium-term conflict detection (MTCD) and similar systems						
	5. Develop and implement further SEIs to mitigate the risk of the identified contributing factors, if any, for MAC	annual review	KCAA, Air Operators, ATOs	CAA, Air Operators, ATOs	Number of TCAS-RA reports	Medium	annual review of NASP
	6. Validate the effectiveness of the SEIs through the analysis of FDM, pilot and ATC reports	annual review	ANSP, air operators, ATOs	CAA, Air Operators, ATOs	Number of TCAS-RA reports	Medium	Annual data analysis
						Medium	

HRC 3: MID-AIR COLLISION (MAC)							
Goal 1: Achieve a continuous reduction of operational safety risks							
Target 1.1: Maintain a decreasing trend of accident rate.							
Safety enhancement initiative	**Action**	**Timeline**	**Responsible entity**	**Stakeholders**	**Metrics / Indicators**	**Priority**	**Monitoring Activity**
	7. Conduct continuous evaluations of the performance of the SEIs	annual review	SSPICE/NASP committee	CAA, Air Operators, ATOs	Number of TCAS-RA reports		annual review of NASP

HRC 4: RUNWAY EXCURSION (RE)

HRC 4: RUNWAY EXCURSION (RE)							
Goal 1: Achieve a continuous reduction of operational safety risks							
Target 1.1: Maintain a decreasing trend of global accident rate.							
Safety enhancement initiative	**Action**	**Timeline**	**Responsible entity**	**Stakeholders**	**Metrics / Indicators**	**Priority**	**Monitoring Activity**
SEI - 4: Mitigate contributing factors to RE accidents and incidents	1. Implement the following RE safety actions: a) Ensure the establishment and implementation of a State runway safety programme and runway safety teams at 9 airports (international and domestic)	a) Develop and implement the State Runway Safety Programme by 30th June 2023. b) All airports to establish and operationalize RSTs by 30th December 2023	KCAA	KAA, ANSP, Air Operators, Ground Handlers, Security agencies	a) Number of airports that have implemented and operationalized RSTs b) Approved State Runway Safety Programme	High	Continuous surveillance activities on ANSPs and Aerodrome Operators
	b) Promote the establishment of policy and training on rejected landings, go-arounds, crosswind and tailwind landings (up to the maximum manufacturer demonstrated winds)	Continuous	KCAA	Air Operators, ATOs	Number of reported rejected landings, go-arounds, crosswind and tailwind landings	High	Surveillance of AOC Training Programmes & SOPs
	c) Ensure effective and timely reporting of meteorological and	Continuous	KCAA & Aerodrome Operators	Aerodrome Operators,	Number of reports and data that	High	Continuous surveillance activities on

HRC 4: RUNWAY EXCURSION (RE)							
Goal 1: Achieve a continuous reduction of operational safety risks							
Target 1.1: Maintain a decreasing trend of global accident rate.							
Safety enhancement initiative	**Action**	**Timeline**	**Responsible entity**	**Stakeholders**	**Metrics / Indicators**	**Priority**	**Monitoring Activity**
	aerodrome conditions (e.g. runway surface condition in accordance to the ICAO global reporting format in Annex 14, Volume I, braking action and revised declared distances)			ANSPs, CAA, MET Service Providers and Air Operators	are submitted in a timely manner;		ANSPs and Aerodrome Operators
	d) Certify aerodromes in accordance with the Civil Aviation (Certification, Licensing and Registration of Aerodromes) Regulations	Undertake the certification of all international airports by 30th December 2024;	KCAA	Aerodrome Operators, ANSPs, CAA, MET Service Providers and Air Operators	Number of aerodromes certified	High	Continuous surveillance activities on Aerodrome Operators
	e) Promote the installation of arresting systems if runway end safety area (RESA) requirements cannot be met	Continuous	KCAA & Aerodrome Operators	Aerodrome Operators, ANSPs, CAA and Air Operators	Number of sensitization activities conducted	High	Continuous surveillance activities on Aerodrome Operators

HRC 4: RUNWAY EXCURSION (RE)							
Goal 1: Achieve a continuous reduction of operational safety risks							
Target 1.1: Maintain a decreasing trend of global accident rate.							
Safety enhancement initiative	**Action**	**Timeline**	**Responsible entity**	**Stakeholders**	**Metrics / Indicators**	**Priority**	**Monitoring Activity**
	f) Ensure that procedures to systematically reduce the rate of un-stabilized approaches to runways are developed and used e.g awareness on obtaining MET information, ATC training,	Continuous	KCAA	Air operators, ANSP	Number of RE	High	Continuous surveillance activities on air operators
	2. Validate the effectiveness of the SEIs in the industry through MORs and VRS systems and accident/incident investigations	Continuous	KCAA	Aerodrome Operators, ANSPs, CAA and Air Operators	Number of RE incidents	High	Continuous surveillance activities on Aerodrome Operators, ANSPS, Air operators and Inspectors
	3. Identify additional contributing factors, for example: a) Ineffective SOPs	Continuous	KCAA, industry	Aerodrome Operators, ANSPs,	No of RE as a result of the additional	High	Surveillance of AOC Training Programmes,

HRC 4: RUNWAY EXCURSION (RE)							
Goal 1: Achieve a continuous reduction of operational safety risks							
Target 1.1: Maintain a decreasing trend of global accident rate.							
Safety enhancement initiative	**Action**	**Timeline**	**Responsible entity**	**Stakeholders**	**Metrics / Indicators**	**Priority**	**Monitoring Activity**
	b) Failure to adhere to the appropriate SOPs c) Long/floated/bounced/firm/off-center/crabbed landing d) Inadequate approach procedures designe) Inadequate regulatory oversight			and Air Operators	contributory factors		Conducting en-route inspections
	4. Implement the following RE safety actions: a) Active participation in runway safety programmes and runway safety teams	Continuous	CAA, Aerodrome Operators, air operators, ATOs	KAA, ANSP, Air Operators, Ground Handlers, Security.	a) Percentage of airports that have implemented and operationalized RSTs b) No of RE	High	Continuous surveillance activities on ANSPs and Aerodrome Operators
	b) Policy and training on rejected landings, go-arounds, crosswind and tailwind landings (up to the maximum	Continuous	Air Operators, ATOs	CAA, Aerodrome Operators, ANSPs,	Number of reported rejected landings, go-arounds,	Moderate	Continuous Surveillance

HRC 4: RUNWAY EXCURSION (RE)							
Goal 1: Achieve a continuous reduction of operational safety risks							
Target 1.1: Maintain a decreasing trend of global accident rate.							
Safety enhancement initiative	**Action**	**Timeline**	**Responsible entity**	**Stakeholders**	**Metrics / Indicators**	**Priority**	**Monitoring Activity**
	manufacturer-demonstrated winds)			and Air Operators	crosswind and tailwind landings		
	c) Effective and timely reporting of meteorological and aerodrome conditions (e.g. runway surface condition in accordance with the ICAO global reporting format in Annex 14, Volume I, braking action and revised declared distances)	Continuous	Aerodrome Operators, ANSP	Aerodrome Operators, ANSPs, and Air Operators	Percentage of reports and data that are submitted in a timely manner;	High	Continuous surveillance activities on ANSPs and Aerodrome Operators
	d) Comply with runway-related provisions in Civil Aviation (Certification, Licensing and Registration of Aerodromes) Regulations	Continuous	Aerodrome Operators	Aerodrome Operators, ANSPs, CAA, MET Service Providers	Number of certified aerodromes Number of non-compliances	High	Continuous surveillance activities on Aerodrome Operators

HRC 4: RUNWAY EXCURSION (RE)							
Goal 1: Achieve a continuous reduction of operational safety risks							
Target 1.1: Maintain a decreasing trend of global accident rate.							
Safety enhancement initiative	**Action**	**Timeline**	**Responsible entity**	**Stakeholders**	**Metrics / Indicators**	**Priority**	**Monitoring Activity**
				and Air Operators	per aerodrome		
	e) Consider an arresting system if RESA requirements cannot be met	Continuous	Aerodrome Operators	Aerodrome Operators, ANSPs, CAA and Air Operators	Number of arresting systems installed	High	Continuous surveillance activities on Aerodrome Operators
	f) Procedures to systematically reduce the rate of un-stabilized approaches to runways	Continuous	Air operators, ANSP, ATOs	ANSP, air operators, ATOs	Number of RE incidents	High	Continuous surveillance activities on ANSPs
	5. Develop and implement further SEIs to mitigate the risk of the identified contributing factors, if any, for RE	Annual Review	KCAA, Industry	Aerodrome Operators, ANSPs, CAA, MET Service Providers and Air Operators	a) Number of reviews undertaken on the effectiveness of the SEIs b) Number of new SEIs	Moderate	Annual review of NASP document
	6. Validate the effectiveness of the SEIs through the analysis of FDM and pilot reports	Annual Review	KCAA, Industry				

HRC 4: RUNWAY EXCURSION (RE)							
Goal 1: Achieve a continuous reduction of operational safety risks							
Target 1.1: Maintain a decreasing trend of global accident rate.							
Safety enhancement initiative	**Action**	**Timeline**	**Responsible entity**	**Stakeholders**	**Metrics / Indicators**	**Priority**	**Monitoring Activity**
	7. Conduct continuous evaluations of the performance of the SEIs	Annual Review	SSPICE/NASP committee		developed and implemented c) Number of RE		

HRC 5: RUNWAY INCURSION (RI)

HRC 5: RUNWAY INCURSION (RI)							
Goal 1: Achieve a continuous reduction of operational safety risks							
Target 1.1: Maintain a decreasing trend of global accident rate.							
Safety enhancement initiative	**Action**	**Timeline**	**Responsible entity**	**Stakeholders**	**Metrics / Indicators**	**Priority**	**Monitoring Activity**
	1. Implement the following RI safety actions: a) Ensure the establishment and implementation of a State runway safety programme and runway safety teams	a) Develop and implement the State Runway Safety Programme by 30th June 2023. b) All airports to establish and operationalize RSTs by 30th December 2022	KCAA	KAA, ANSP, Aircraft Operators	a) Number of airports that have implemented and operationalized RSTs b) Approved State Runway Safety Programme	High	Surveillance audits and inspections
	b) Promote the establishment of policy, procedures and training that supports situational awareness for	continous	KCAA	KAA, ANSP, ATOs, Aircraft Operators	Number of Runway safety policies, Awareness seminars and training for airside operators	Medium	Surveillance audits and inspections

HRC 5: RUNWAY INCURSION (RI)							
Goal 1: Achieve a continuous reduction of operational safety risks							
Target 1.1: Maintain a decreasing trend of global accident rate.							
Safety enhancement initiative	**Action**	**Timeline**	**Responsible entity**	**Stakeholders**	**Metrics / Indicators**	**Priority**	**Monitoring Activity**
	controllers, pilots and airside vehicle drivers						
	c) Promote use of suitable technologies to assist the improvement of situational awareness, such as improved resolution airport moving maps (AMM), electronic flight bags (EFBs), enhanced vision systems (EVS) and head-up displays (HUD), advanced-surface movement	2025	KCAA	KAA, ANSP, Aircraft Operators	Number of awareness activities	Medium	tracking of proMinistry of Roads and Transportion activities

HRC 5: RUNWAY INCURSION (RI)							
Goal 1: Achieve a continuous reduction of operational safety risks							
Target 1.1: Maintain a decreasing trend of global accident rate.							
Safety enhancement initiative	**Action**	**Timeline**	**Responsible entity**	**Stakeholders**	**Metrics / Indicators**	**Priority**	**Monitoring Activity**
	guidance and control systems (A-SMGCS), stop bars, and runway incursion warning systems (ARIWS)						
	d) Certify aerodrome in accordance with the Civil Aviation (Certification, Licensing, and Registration of Aerodromes) Regulations	Undertake the certification of all international airports by 30th December 2024;	KCAA	Aerodrome Operators, ANSPs, CAA, MET Service Providers	Number of aerodromes certified	High	Continuous surveillance activities on Aerodrome Operators
	e) Ensure the use of standard phraseologies in accordance with Civil Aviation (Communicatio	Continuous	KCAA	ANSP, Aerodrome operators, Aircraft operators, ATOs	Number of RIs	Medium	Surveillance of ANSP

HRC 5: RUNWAY INCURSION (RI)							
Goal 1: Achieve a continuous reduction of operational safety risks							
Target 1.1: Maintain a decreasing trend of global accident rate.							
Safety enhancement initiative	**Action**	**Timeline**	**Responsible entity**	**Stakeholders**	**Metrics / Indicators**	**Priority**	**Monitoring Activity**
	n Procedures) Regulations						
	f) Ensure the identification and publication in the aeronautical information publication (AIP) of hot spots at aerodromes	By December 2024	KCAA	ANSP, Aerodrome operators, operators	Number of aerodrome hotspots published in the AIP	Medium	Surveillance of ANSPs and Aerodrome Operators
	g) Ensure that suitable strategies to remove hazards or mitigate risks associated with identified hot spots are developed and executed	By December 2024	KCAA	ANSP, Aerodrome operators, ATOs, AOCs	Number of RI Number of strategies to remove hazards or mitigate risks associated with identified hot spots	Medium	Surveillance of ANSPs and Aerodrome Operators
		Annual	KCAA		Number of RI	High	

HRC 5: RUNWAY INCURSION (RI)							
Goal 1: Achieve a continuous reduction of operational safety risks							
Target 1.1: Maintain a decreasing trend of global accident rate.							
Safety enhancement initiative	**Action**	**Timeline**	**Responsible entity**	**Stakeholders**	**Metrics / Indicators**	**Priority**	**Monitoring Activity**
	2. Validate the effectiveness of the SEIs in the industry through MORs and VRS systems and accident/incident investigations			ANSP, Aerodrome Operators, ATOs, AOCs			annual review of MOR/VRS data
	3. Identify additional contributing factors, for example: h) Operations in low visibility conditions	Continuous	KCAA, industry	Aerodrome Operators, ANSPs, ATOs and Air Operators	Number of RI attributable to additional contributing factors	High	Surveillance of ANSP's training: basic, specialized and recurrence

HRC 5: RUNWAY INCURSION (RI)							
Goal 1: Achieve a continuous reduction of operational safety risks							
Target 1.1: Maintain a decreasing trend of global accident rate.							
Safety enhancement initiative	**Action**	**Timeline**	**Responsible entity**	**Stakeholders**	**Metrics / Indicators**	**Priority**	**Monitoring Activity**
	i) Complex or inadequate aerodrome design j) Complexity of traffic (multiple simultaneous line-ups) k) Conditional clearances l) Simultaneous use of intersecting runways m) Late issue of or late changes to departure clearances Phraseology use (e.g. non-standard vs. standard, call-sign confusion) n) Concurrent use of more than one language						

HRC 5: RUNWAY INCURSION (RI)							
Goal 1: Achieve a continuous reduction of operational safety risks							
Target 1.1: Maintain a decreasing trend of global accident rate.							
Safety enhancement initiative	**Action**	**Timeline**	**Responsible entity**	**Stakeholders**	**Metrics / Indicators**	**Priority**	**Monitoring Activity**
	for ATC communications o) English language Proficiency p) Inadequate maneuvering area driver training and assessment programme						
	4. Implement the following RI safety actions: a) Active participation in a runway safety programme and runway safety teams	Continuous	Industry	Aerodrome Operators, ANSPs, ATOs and Air Operators	Number of RST meetings held per aerodrome in a year and the diversity of attendance	Medium	Surveillance of ANSPs and Aerodrome Operators

HRC 5: RUNWAY INCURSION (RI)							
Goal 1: Achieve a continuous reduction of operational safety risks							
Target 1.1: Maintain a decreasing trend of global accident rate.							
Safety enhancement initiative	**Action**	**Timeline**	**Responsible entity**	**Stakeholders**	**Metrics / Indicators**	**Priority**	**Monitoring Activity**
	b) Policy, procedures and training that support situational awareness for controllers, pilots and airside vehicle drivers	Continuous	Aerodrome Operator, ANSP, ATOs and AOCs	Aerodrome Operators, ANSP, ATOs and Air Operators	Number of RI Number of awareness activities	Medium	Surveillance of ANSP, Aerodrome operators and air operators
	c) Effective use of suitable technologies to assist the improvement of situation awareness, such as improved resolution AMM, EFB, EVS and HUD, A-SMGCS, stop bars and ARIWS	Continuous	Aerodrome Operator, ANSP, ATOs and AOCs	Aerodrome Operators, ANSP, ATOs and Air Operators	Number of RI	medium	

HRC 5: RUNWAY INCURSION (RI)							
Goal 1: Achieve a continuous reduction of operational safety risks							
Target 1.1: Maintain a decreasing trend of global accident rate.							
Safety enhancement initiative	**Action**	**Timeline**	**Responsible entity**	**Stakeholders**	**Metrics / Indicators**	**Priority**	**Monitoring Activity**
	d) Comply with runway-related provisions in Civil Aviation (Aerodrome Design and Operations) Regulations	Continuous	Aerodrome Operator	Aerodrome operator	Number of non-compliances per aerodrome	High	
	e) Identification and publication in the AIP of hot spots at aerodromes	2024	Aerodrome operator and ANSP	Aerodrome Operator	Number of aerodromes that have published hotspots	Medium	
	f) Suitable strategies to remove or mitigate hazards associated with identified hot spots	Continuous	aerodrome operator, ANSP, ATOs and AOCs	aerodrome operator, ANSP, ATOs and AOCs	number of RI Number of strategies to remove or mitigate hazards associated with identified hot spot	Medium	closure of hazard log action items

HRC 5: RUNWAY INCURSION (RI)							
Goal 1: Achieve a continuous reduction of operational safety risks							
Target 1.1: Maintain a decreasing trend of global accident rate.							
Safety enhancement initiative	**Action**	**Timeline**	**Responsible entity**	**Stakeholders**	**Metrics / Indicators**	**Priority**	**Monitoring Activity**
	5. Develop and implement further SEIs to mitigate the risk of the identified contributing factors, if any, for RI	Annual	aerodrome operator, ANSP, ATOs and AOCs	aerodrome operator, ANSP, ATOs and AOCs	number of RI	high	annual review of NASP
	6. Validate the effectiveness of the SEIs through the analysis of ATC data, and reports from stakeholders	Annual	aerodrome operator, ANSP, ATOs and AOCs	aerodrome operator, ANSP, ATOs and AOCs	number of RI	High	annual review of NASP
	7. Conduct continuous evaluations of the performance of the SEIs	Annual	SSPICE/NASP committee	aerodrome operator, ANSP, ATOs and AOCs	number of RI	Medium	annual review of NASP

HRC 6: BIRD/WILDLIFE INCIDENTS (BWI)

HRC 6: BIRD/WILDLIFE INCIDENTS (BWI)							
Goal 1: Achieve a continuous reduction of operational safety risks							
Target 1.1: Maintain a decreasing trend of global accident rate.							
Safety enhancement initiative	**Action**	**Timeline**	**Responsible entity**	**Stakeholders**	**Metrics / Indicators**	**Priority**	**Monitoring Activity**
SEI - 6: Mitigate contributing factors to bird/wildlife strikes	1. Implement the following BWI safety actions: a) Ensure the establishment and implementation of a National Wildlife Hazard management committee and programme	By December 2023	KCAA	KAA, ANSP, Aircraft Operators, KWS, County Governments, Military, NEMA, National Museum, Bird/wildlife Organizations e.g. Nature Kenya	Approved National Wildlife Hazard Management Plan letters of appointment to the National Wildlife Hazard Committee	High	Surveillance audits and inspections

HRC 6: BIRD/WILDLIFE INCIDENTS (BWI)							
Goal 1: Achieve a continuous reduction of operational safety risks							
Target 1.1: Maintain a decreasing trend of global accident rate.							
Safety enhancement initiative	**Action**	**Timeline**	**Responsible entity**	**Stakeholders**	**Metrics / Indicators**	**Priority**	**Monitoring Activity**
	b) Ensure the establishment and implementation of Local Wildlife Hazard management committees at all Certified aerodromes	31-Dec-23	KCAA	Aerodrome operators, ANSPS, Air operators, Security agencies, KWS, Bird Specialists	Number of meetings held	high	Surveillance audits and inspections of the Aerodromes
	2. Development and implementation of wildlife hazard management plan at certified aerodromes	31st December 2023	Aerodrome Operator	Aerodrome operators, ANSPS, Air operators, Security agencies, KWS, Bird Specialists	number of airports that have developed wildlife hazard management plans percentage of wildlife plan implemented	High	Surveillance audits and inspections of the Aerodromes
	3. Ensure the collection, analysis and	Continuous	KCAA, Industry	Aerodrome operators, ANSPS, Air	Number of birds strikes per	High	Surveillance audits and inspections

HRC 6: BIRD/WILDLIFE INCIDENTS (BWI)							
Goal 1: Achieve a continuous reduction of operational safety risks							
Target 1.1: Maintain a decreasing trend of global accident rate.							
Safety enhancement initiative	**Action**	**Timeline**	**Responsible entity**	**Stakeholders**	**Metrics / Indicators**	**Priority**	**Monitoring Activity**
	reporting of bird hazard and bird strikes data is undertaken.			operators, Bird Specialists	aerodrome per year		of the Aerodromes Data analysis of bird/wildlife incident reports
	4. Effective use of suitable technologies to assist the deterrent of presence of birds on the critical areas	Continuous	Aerodrome Operator	Aerodrome operators, ANSPS, Air operators, Bird Specialists	Number of birdstrikes per aerodrome per year	High	Surveillance audits and inspections
	5. Ensure better management of vegetation and land use around airports	Continuous	KCAA, Industry	Aerodrome Operators, County Governments, Military, NEMA, Government agencies (KWS,KFS, National Museums)	Number of bird strikes per aerodrome per year	High	Surveillance audits and inspections of the Aerodromes

HRC 6: BIRD/WILDLIFE INCIDENTS (BWI)							
Goal 1: Achieve a continuous reduction of operational safety risks							
Target 1.1: Maintain a decreasing trend of global accident rate.							
Safety enhancement initiative	**Action**	**Timeline**	**Responsible entity**	**Stakeholders**	**Metrics / Indicators**	**Priority**	**Monitoring Activity**
	6. Validate the effectiveness of the SEIs through the analysis of Birdstrike data and reports from stakeholders	Continuous	KCAA, Industry	Aerodrome operators, ANSPS, Air operators, Bird Specialists	Number of birdstrikes per aerodrome per year	High	annual data analysis
	7. Conduct continuous evaluations of the performance of the SEI	Continuous	SSPICE/NASP Committee	Aerodrome operators, ANSPS, Air operators, Bird Specialists	Number of birdstrikes per aerodrome per year	High	annual review of NASP

Appendix II

Goal 2: Strengthen Kenya's safety oversight capabilities							
Safety enhancement initiative	**Action**	**Timeline**	**Responsible entity**	**Stakeholders**	**Metrics / Indicators**	**Priority**	**Monitoring Activity**
SEI-7: Consistent implementation of ICAO Standards and Recommended Practices (SARPs)	Address all priority protocol questions (PQs) of the USOAP CMA	continous	KCAA, AAID	KCAA, AAID, air operators, ATOs, Aerodrome operators, ANSP, AMOs,	percentage of priority PQs EI	high	update on ICAO USOAP-CMA online reporting framework
	Enhance primary aviation law and regulations, to empower the competent authority to conduct regulatory oversight, this includes separation of oversight functions and	continous	KCAA, AAID	KCAA, AAID, air operators, ATOs, Aerodrome operators, ANSP, AMOs,	percentage of CE1 &CE2	high	Continous review of the Civil Aviation Act & Civil aviation regulations

	service provision functions (CE-1 and CE-2)						
	Increase the level of compliance with ICAO SARPs and increase the EI of CE-1 to CE-5	continous	KCAA, AAID	KCAA, AAID, air operators, ATOs, Aerodrome operators, ANSP, AMOs,	E.I percentage of CE1 - CE5	high	update on ICAO USOAP-CMA online reporting framework
	Implement the process for the identification of differences with ICAO SARPs (CE-2)	continous	KCAA, AAID	KCAA, AAID, air operators, ATOs, Aerodrome operators, ANSP, AMOs,	differences filed with ICAO	high	Continous review of the Civil Aviation Act & Civil aviation regulations
SEI-8 — Development of a comprehensive regulatory oversight framework	Enhance and maintain an independent regulatory oversight authority, which includes separation of oversight functions from service provision functions where these exist within the authority (CE-3)	continous	KCAA, AAID	KCAA, AAID, air operators, ATOs, Aerodrome operators, ANSP, AMOs,	Oversight activitites conducted on service providers within the Authority	high	surveillance activities conducted on service providers within the Authority i.e ANSP & EASA

	Enhance the documentation system to promulgate technical guidance and tools, and provide safety-critical information needed for technical personnel to effectively perform their safety oversight functions (CE-5)	2025	KCAA, AAID	KCAA, AAID, air operators, ATOs, Aerodrome operators, ANSP, AMOs,	Percentage of uploaded TGMs on docushare/ TGMs approved	high	continous upload of TGMs on Docushare and KCAA website
	Establish an effective system to attract, recruit, train and retain qualified and sufficient technical personnel to support regulatory oversight (CE-3 and CE-4)	2025	KCAA, AAID	KCAA, AAID, air operators, ATOs, Aerodrome operators, ANSP, AMOs,	Percentage of in-post inspectors /establised KCAA structure	high	Difference between in-post and the established KCAA structure
SEI-9 — Establish ment of an independe	Establish an independent accident and incident	2023	AAID, MINISTRY OF ROADS AND TRANSPORT	AAID, KCAA,MINISTRY OF ROADS AND	E.I percentage of CE1 & CE3	high	

nt accident and incident investigation authority, consistent with Annex 13 — Aircraft Accident and Incident Investigation	investigation authority, as per Annex 13 requirements (CE-1 and CE-3)			TRANSPORT, Attorney General			
	Develop an effective system to promulgate technical guidance and tools, and provide safety-critical information needed for technical personnel to effectively conduct accident and incident investigations (CE-5)	2025	AAID, MINISTRY OF ROADS AND TRANSPORT	AAID, MINISTRY OF ROADS AND TRANSPORT	E.I percentage of CE5, number of approved TGMs Vs number uploaded on AAID website	high	review of AAID technical guidance material
	Establish an effective system to attract, recruit, train and retain qualified and sufficient technical personnel to support accident and incident investigations	2025	AAID, MINISTRY OF ROADS AND TRANSPORT	AAID, MINISTRY OF ROADS AND TRANSPORT	Percentage of in-post inspectors /establised AAID structure	high	Difference between in-post and the established AAID structure

	(see SEI-5) (CE-3 and CE-4)						
SEI-10 — Strategic allocation of resources to enable effective safety oversight	Establish a process for the resource planning and allocation in alignment with a competent authority's organizational structure, which is required to conduct effective safety oversight (CE-2 and CE-3).	Continous	KCAA, AAID	KCAA, AAID, Ministry of Roads and Transport, TREASURY,	percentage of oversight activities conducted /planned	high	number of oversight activities conducted against planned
	Obtain a sustainable and stable source of financing through commitments from the national and agency leadership and other stakeholders (CE-1 to CE-3).	Continous	KCAA, AAID	KCAA, AAID, Ministry of Roads and Transport, TREASURY, KRA	percentage of approved budget/proposed	high	difference of approved budget against proposed budget

	Develop a process for assessing changing resource requirements and sustain necessary coordination with resource stakeholders for safety oversight improvements	2025	KCAA, AAID	KCAA, AAID, Ministry of Roads and Transport, TREASURY	Development of the Resource assessment process implementation of the Resource assessment process	high	Sufficient resources allocated when changes occur
SEI-11— Qualified technical personnel to support effective safety oversight	Establish an effective system to identify and track qualifications and training of existing technical personnel (CE-4)	2024	KCAA, AAID	KCAA, AAID, Ministry of Roads and Transport,	E.I percentage of CE4	high	Development & implementation of Training System
	Identify the gaps in qualified technical personnel and training requirements necessary to implement the oversight mandate (CE-4)	2024	KCAA, AAID	KCAA, AAID, Ministry of Roads and Transport,	development of training programme	high	progress of development of training programme

	Establish a compensation scheme for the attraction and retention of qualified technical personnel (CE-4)	established	KCAA, AAID	KCAA, AAID, Ministry of Roads and Transport,	percentage of inspectorate/investigator staff turnover	medium	number of staff turnover in Oversight Departments and AAID
	Establish human resource plans to support hiring and retention of the appropriate number of qualified technical personnel required (CE-4)	established	KCAA, AAID	KCAA, AAID, Ministry of Roads and Transport,	percentage of inspectorate/investigator staff turnover	medium	number of staff turnover in Oversight Departments and AAID
	Implement training policies and programmes for technical personnel and verify that the type and frequency of training successfully completed (i.e. initial, recurrent, specialized and on-the-job training) are sufficient to	continous	KCAA, AAID	KCAA, AAID, Ministry of Roads and Transport,	percentage of implementation of training programme	high	progress in implementation of training programme

	acquire/maintain the required qualifications and level of competence corresponding to the assigned duties and responsibilities of technical personnel (CE-4)						
	Develop a process for assessing changing needs for qualified technical personnel requirements and develop procedures to update hiring, retention and training of personnel needs, in coordination with SEI-4B (CE-4)	2025	KCAA, AAID	KCAA, AAID, Ministry of Roads and Transport,	developme nt of a process for managing changes of qualified technical personnel	high	implementati on of training change mangement

SEI-12 — Strategic collaboration with key aviation stakeholders to enhance safety in a coordinated manner	Based on the identified safety deficiencies, establish a mechanism to identify collaborators and develop an action plan for the resolution of those deficiencies (CE-1 to CE-5)	2024	KCAA	KCAA, AAID, Ministry of Roads and Transport, air operators, ATOs, Aerodrome operators, ANSP, AMOs,	Establishment of a NASP review Taskforce Issuance of appointment letters to members serving in the Taskforce	medium	number of NASP Taskforce meetings held
	Provide assistance to other States for primary aviation legislation development	continous	KCAA	CASSOA, AFCAC, States	number of assistance activities conducted	medium	number of assistance activities conducted
	Provide assistance to other States for the development of national regulations (CE-2)	continous	KCAA	CASSOA, AFCAC, States	number of assistance activities conducted	medium	number of assistance activities conducted
	Establish a process for a collaboration system, including providing industry assistance as well	2025	KCAA	KCAA, AAID, Ministry of Roads and Transport, air operators, ATOs, Aerodrome operators, ANSP, AMOs,	number of assistance activities conducted	medium	number of assistance activities conducted

	as sharing of best practices and internal follow-up actions						
	Establish and implement a process for the development and promulgation of technical guidance, tools and the provision of safety-critical information, in collaboration with industry and/or other stakeholders, with the understanding that these materials need to be aligned to the Civil Aviation Act	2025	KCAA, AAID	KCAA, AAID, air operators, ATOs, Aerodrome operators, ANSP, AMOs,	Development of a TGM collaboration process number of TGMs developed by the collaboration process	medium	Number of collaboration meetings held
	While working to improve safety oversight, work with industry and stakeholders to address high-risk categories of	continous	KCAA, AAID	KCAA, AAID, Ministry of Roads and Transport, air operators, ATOs, Aerodrome operators, ANSP, AMOs,	State SPIs	high	review of State SPIs

	occurrences (see OPS roadmap)						
	Collaborate in resolving safety concerns identified via accident and incident investigations, safety reports and other means (CE-8)	continous	KCAA, AAID	KCAA, AAID, Ministry of Roads and Transport, air operators, ATOs, Aerodrome operators, ANSP, AMOs,	number of safety concerns meetings held	high	number of safety concerns meetings held
SEI-13 — Provision of the primary source of safety information to ICAO by completing, submitting and updating all relevant documents and records	Update USOAP corrective action plan items	continous	KCAA, AAID	KCAA, AAID, Ministry of Roads and Transport,	E.I score	high	Quarterly review of OLF
	Complete and submit the self-assessment checklist based on USOAP CMA PQs	continous	KCAA, AAID	KCAA, AAID, Ministry of Roads and Transport,	E.I score	high	Quarterly review of OLF
	Complete and submit the State aviation activity questionnaire	continous	KCAA, AAID	KCAA, AAID, Ministry of Roads and Transport,	E.I score	high	Quarterly review of OLF
	Complete and submit the compliance checklists on electronic filing of	continous	KCAA, AAID	KCAA, AAID, Ministry of Roads and Transport,	E.I score	high	Quarterly review of OLF

	differences system						
	Update documents and records, as required, in a timely manner	continous	KCAA, AAID	KCAA, AAID, Ministry of Roads and Transport,	E.I score	high	Quarterly review of OLF
SEI-14 — Improvement of industry compliance with applicable regulations	Work together with industry to ensure compliance with applicable regulations	continous	Industry	KCAA, AAID, air operators, ATOs, Aerodrome operators, ANSP, AMOs,	Number of stakeholder engagements conducted		Number of stakeholder engagements conducted annually
	Encourage service providers to participate in the corresponding recognized industry assessment programmes (IOSA,ISAGO,APEX,CANSO,ISBAO, BARS, etc)	continous	Industry	KCAA, AAID, air operators, ATOs, Aerodrome operators, ANSP, AMOs,	Number of service providers participating in recognized industry assessment programmes		Trends in participation in industry assessment programmes
	Encourage the active participation of industry in State Safety Initiatives to assist with the implementation	continous	Industry	KCAA, AAID, air operators, ATOs, Aerodrome operators, ANSP, AMOs,	Participation levels in implementation of SEIs		Annual review of participation levels in implementation of SEIs

	of safety enhancement initiatives						
SEI-15 — Allocation of industry resources to enable effective safety oversight	Identify resources that are available to support roadmap safety enhancement initiatives for the State		Industry	KCAA, AAID, air operators, ATOs, Aerodrome operators, ANSP, AMOs,	records of available resources to support SEIs		Review of records of available resources to support SEIs
	Participate in regional and international government/industry collaborative safety enhancement initiatives		Industry	KCAA, AAID, air operators, ATOs, Aerodrome operators, ANSP, AMOs,	Number of regional and international government/industry initiative participations		Level of participation in regional and international government/industry initiatives

Goal 3: — Implement an effective State safety programme (SSP)							
Safety enhancement initiative	**Action**	**Timeline**	**Responsible entity**	**Stakeholders**	**Metrics / Indicators**	**Priority**	**Monitoring Activity**
SEI-16 — Strategic allocation of resources to SSP implementation	Review of SSP implementation plan	continous	KCAA	KCAA,AAID, Ministry of Roads and Transport, NASD (KWS, KDF, KFS, KPAW, KETRACO, KPC) Kenya Space Agency,	percentage of SSP plan implemented	high	implementation plan activities conducted
	Identify and share safety management best practices	continous	KCAA	KCAA, AAID, air operators, ATOs, Aerodrome operators, ANSP, AMOs,	identification of best practices Best practices sharing activities	high	implementation of best practices by the industry

	Establish a process for planning and allocation of resources to enable SSP implementation and identify areas where resources are needed	2024	KCAA	KCAA, AAID, Ministry of Roads and Transport, NASD (KWS, KDF, KFS, KPAW, KETRACO, KPC) Kenya Space Agency, air operators, ATOs, Aerodrome operators, ANSP, AMOs,	established resource allocation & planning process	high	implementation of the planning & allocation process
	Obtain resources from national and appropriate authorities' leadership and stakeholders within the State to support SSP implementation	2024	KCAA	KCAA,AAID, Ministry of Roads and Transport, NASD (KWS, KDF, KFS, KPAW, KETRACO, KPC) Kenya Space Agency,	level of contribution by appropriate authorities	high	level of contribution by appropriate authorities

	Work with the ICAO ESAF Regional Office to make use of available means (e.g. AFI Plan SSP Project) to acquire assistance needed for SSP implementation	continous	KCAA	KCAA, AAID, Ministry of Roads and Transport, NASD (KWS, KDF, KFS, KPAW, KETRACO, KPC) Kenya Space Agency,	number of SSP assistance activities conducted	high	number of SSP assistance activities conducted
	Work with RSOO, other States and other organizations, as appropriate to train qualified technical personnel to fulfil their duties and responsibilities regarding SSP implementation	continous	KCAA	KCAA, AAID, air operators, ATOs, Aerodrome operators, ANSP, AMOs,	number of tranings c onducted	high	number of tranings conducted
Resources for service providers to effectively implement SMS	Work in collaboration with KCAA and industry associations to advance SMS implementation and identify expectations that cannot be	continous	service providers	Industry	level of collaboration by service providers		level of collaboration by service providers

	efficiently resourced						
SEI-17 — Strategic collaboration with key aviation stakeholders for SSP implementation	Identify areas where resources are needed as part of the SMS implementation plan developed following the SMS gap analysis	2023	service providers	Industry	level of SMS implementation	high	Review of SMS implementation plan
	Establish a process for resource planning and allocation to enable SMS implementation, including resources which may be obtained from industry organizations	2023	service providers		Developed SMS resource plan	medium	surveillance of service providers

	Encourage other service providers (e.g. ground handlers, fuellers, etc) to implement SMS within their operation by providing resources, such as qualified technical personnel to assist them	2025	service providers	Industry	Number of non-regulated entities who have implemented SMS	high	Number of non-regulated entities who have implemented SMS
	Provide training on SSP to relevant staff, (e.g. technical , coporate)	2025	KCAA	KCAA, AAID, Ministry of Roads and Transport, NASD (KWS, KDF, KFS, KPAW, KETRACO, KPC) Kenya Space Agency,	SSP training programme SSP trainings conducted	high	review of SSP training programme
SEI-17 — Strategic collaboration with key aviation stakeholders for SSP implementation	Work with stakeholdersidentified to execute the action plan for implementation	continous	KCAA	CAA, AAID, Ministry of Roads and Transport, NASD (KWS, KDF, KFS, KPAW, KETRACO, KPC) Kenya	Level of participation in SSP activities	high	Number of activities/participation in SSP

				Space Agency, air operators, ATOs, Aerodrome operators, ANSP, AMOs,UAS operators, UTOs,			
	Work with key aviation stakeholders on establishing and updating SSP elements	continous	KCAA	CAA, AAID, Ministry of Roads and Transport, NASD (KWS, KDF, KFS, KPAW, KETRACO, KPC) Kenya Space Agency, air operators, ATOs, Aerodrome operators, ANSP, AMOs,UAS operators, UTOs,	SSP implementation level	high	SSP implementation level

	Maintain a system for the continuous improvement of the SSP, in collaboration with all relevant stakeholders	continous	KCAA	CAA, AAID, Ministry of Roads and Transport, NASD (KWS, KDF, KFS, KPAW, KETRACO, KPC) Kenya Space Agency, air operators, ATOs, Aerodrome operators, ANSP, AMOs,UAS operators, UTOs,	SSP implementation level	high	SSP implementation level
	Ministry of Roads and Transport			Ministry of Roads and Transport	Ministry of Roads and Transport		Ministry of Roads and Transport

SEI-18 — Establishment of safety risk management	Maintain a process to identify hazards from collected safety data	continous	KCAA	CAA, AAID, Ministry of Roads and Transport, NASD (KWS, KDF, KFS, KPAW, KETRACO, KPC) Kenya Space Agency, air operators, ATOs, Aerodrome operators, ANSP, AMOs,UAS operators, UTOs,	State hazard log	high	review of State hazard log
	Establish and utilize a process to ensure the assessment of safety risks associated with identified hazards	2023	KCAA		State safety risk assessment report	high	review of State safety risk assessment report
	Develop safety performance indicators using the established safety risk	2023	KCAA		State SPIs	high	review of State SPIs

	management process						
	Develop safety performance measurement methodologies, aligned with the regional safety metrics, using the established safety risk management process	2024	KCAA		Established SPM methodology	high	level of implementation of SPM methodology
	Establish the acceptable level of safety performance to be achieved through the SSP	2023	KCAA		State AloSP	high	review of SPIs and SPTs
	Ensure the implementationof mandatory safety reporting systems by service providers	continous	KCAA	air operators, ATOs, Aerodrome operators, ANSP, AMOs,UAS operators, UTOs,	Number of non-reported mandatory safety occurrences	high	review of MORs submitted against total number of ocurrences

	Encourage implementation of voluntary safety reporting systems as part of service providers' SMS	continous	KCAA		Number of sensitization sessions on voluntary reporting	medi um	review of number of service providers submitting VRs
	Promote safety awareness and the two-way communication, sharing and exchange of safety-relevant information within the State's aviation organizations and within industry	continous	KCAA	CAA, AAID, Ministry of Roads and Transport, NASD (KWS, KDF, KFS, KPAW, KETRACO, KPC) Kenya Space Agency, air operators, ATOs, Aerodrome operators, ANSP, AMOs,UAS operators, UTOs,	number of safety proMinistry of Roads and Transportion activites conducted	medi um	safety information sharing and exchange implementation

	Contribute information on safety risks and SSP safety performance indicators to the RASG	continous	KCAA	CAA, AAID, Ministry of Roads and Transport, NASD (KWS, KDF, KFS, KPAW, KETRACO, KPC) Kenya Space Agency,	SSP safety data shared with RASG	medi um	review number of shared reports with RASG
Advancement of safety risk management	Establish data sharing connectivity and integration among the State's aviation safety databases, including the mandatory occurrences reporting system, voluntary safety reporting systems, safety audit reports and aviation system statistics (traffic counts, weather information, EI scores, etc.)	2025	KCAA	CAA, AAID, Ministry of Roads and Transport, NASD (KWS, KDF, KFS, KPAW, KETRACO, KPC) Kenya Space Agency,	data sharing integration established	medi um	level of data sharing integration

Establishment of safety risk management at the service provider level	Develop safety performance measurement methodologies, aligned with harmonized safety metrics within industry, via the established safety risk management process — Develop safety performance indicators and associated targets/alert settings, via the established safety risk management process	2024	service providers	Industry	percentage of service providers with accepted SPIs		Review of submitted SPIs from service providers
	Establish internal mechanisms related to the protection of safety data, safety information and related sources for the purpose of safety improvement	2025	service providers	Industry	Number of service providers who have established safety data protection mechanisms	high	Number of service providers who have established safety data protection mechanisms

SEI-19 — Acquisition of resources to increase the proactive use of risk modelling capabilities	Establish and maintain a safety database for technical personnel to monitor system safety issues within the service provider	2025	service providers	Industry	percentage of service providers that have established a SDCPS	Medium	percentage of service providers that have established a SDCPS
	Encourage sharing and use of information from within industry to identify hazards and mitigate safety risks	2024	service providers	Industry	safety data sharing initiatives		
	Identify areas where collaboration/support is needed to ensure that stakeholders understand and implement safety culture concepts to fully embrace an open, just culture and non-punitive safety reporting	2023	KCAA	CAA, AAID, Ministry of Roads and Transport, NASD (KWS, KDF, KFS, KPAW, KETRACO, KPC) Kenya Space Agency, air operators, ATOs, Aerodrome operators, ANSP,	number of safety proMinistry of Roads and Transportion activities conducted e.g meetings, safety culture surveys, etc	high	Annual safety culture survey

				AMOs,UAS operators, UTOs,			
	Establish an assistance system for sharing of best practices, to support safety culture development and the proactive use of risk modelling with industry	2025	KCAA	CAA, AAID, Ministry of Roads and Transport, NASD (KWS, KDF, KFS, KPAW, KETRACO, KPC) Kenya Space Agency, air operators, ATOs, Aerodrome operators, ANSP, AMOs,UAS operators, UTOs,	assistance system established	medi um	level of implementation of the assistance system

	Foster and participate in public-private partnerships to identify and implement system safety enhancements	continous	KCAA	CAA, AAID, Ministry of Roads and Transport, NASD (KWS, KDF, KFS, KPAW, KETRACO, KPC) Kenya Space Agency, air operators, ATOs, Aerodrome operators, ANSP, AMOs,UAS operators, UTOs,	number of PPP activities conducted	medi um	level of participation in PPP activities
	Collaborate with industry stakeholders to establish a mechanism for the regular sharing and exchange of safety information, analyses, safety risk discoveries/lesson	continous	KCAA		data sharing & exchange mechanism established	high	level of participation in data sharing & exchange activities

	s learned and best practices within a confidential and non-punitive environment						
SEI-20 — Allocation of industry resources to support continuous improvement of SSP and SMS	Ensure competent technical personnel are allocated, at the service provider level, to support the requirements of the SSP infrastructure	2025		Industry	number of technical personnel allocated to support SSP		number of technical personnel allocated to support SSP
	Provide safety analysis results from service providers to support the SSP	2025		Industry			
	Monitor safety information exchange networks for continuous improvements	2025		Industry			