National Aviation Safety Plan
DPR Korea (2021-2023)

1st Edition – January 2021

National Aviation Administration
Democratic People's Republic of Korea

APPROVAL OF 1ˢᵗ NATIONAL AVIATION SAFETY PLAN

Approval Steps	*Title*	*Signature*	*Date*
Approved	Director General, NAA		
Reviewed	Head of Flight Safety Inspection Office, NAA		
Prepared	Senior Inspector of Flight Safety Inspection Office, NAA		

Intentionally blank

RECORD OF AMENDMENTS

№	Date Applicable	Date Entered	Entered by	Signature

Intentionally blank

DISTRIBUTION lIST OF NATIONAL AVIATION SAFETY PLAN

№	Category	Holder	Number	Remarks
1	Original	Head of Flight Safety Inspection Office, NAA	1	
2	Copy 1	Library	1	
3	Copy 2	Director General, NAA	1	
4	Copy 3	Deputy Director General, NAA	1	
5	Copy 4	Director of Flight Standards Bureau, NAA	1	
6	Copy 5	Director of Accident Investigation Bureau, NAA	1	
7	Copy 6	Director of Airworthiness Bureau, NAA	1	
8	Copy 7	Director of Air Navigation Services Department, NAA	1	
9	Copy 8	Director of Aerodrome Department, NAA	1	
10	Copy 9	Director of Air Transport Bureau, NAA	1	
11	Copy 10	Director of Air Traffic Management Bureau	1	
12	Copy 11	President of Air Koryo	1	
13	Copy 12	Manager of Pyongyang International Airport	1	
14	Copy 13	Manager of Kalma International Airport	1	
15	Copy 14	Director of Hydro-meteorological Bureau, DPRK	1	
16	Copy 15	Director of Maritime Superintendent Bureau, DPRK	1	
17	Copy 16	Representative of Ministry of National Defense, DPRK	1	
18	Total		17	

Intentionally blank

TABLE OF CONTENTS

———————

Intentionally blank

ABBREVIATIONS

AMHS .... **ATS Message Handling System**

ANS ....Air navigation services

ATM ....Air traffic management

ATS ....Air traffic services

CANSO ....Civil Air Navigation Services Organisation

CAP ....Corrective action plan

CAST............................Commercial Aviation Safety Team

CE ....Critical element

CFIT ....Controlled flight into terrain

CICTT ....CAST/ICAO Common Taxonomy Team

CMA ....Continuous monitoring approach

EI.................................Effective implementation

GANP............................Global Air Navigation Plan

GASP............................Global Aviation Safety Plan

HRC ....High-risk categories of occurrences

LOC-I...........................Loss of control in-flight

PIRG ....Planning and implementation regional group

RAIO ....Regional accident and incident investigation organization

RASG ....Regional aviation safety group

RSOO ....Regional safety oversight organization

SARPs ....Standards and Recommended Practices

SEI ....Safety enhancement initiatives

SMS..............................Safety management system

SPI...............................Safety performance indicator

SSC .... Significant safety concern

SSP .... State safety programme

SSR .... SecondarySurveillance Radar

USOAP .... Universal Safety Oversight Audit Programme

———————

SECTION 1. FORWARD

1.1   INTRODUCTION OF NASP

As a member State of the International Civil Aviation Organization (ICAO), the Democratic People's Republic of Korea (DPRK) has the obligation to ensure all aviation activities within its territory are conducted in a safe manner.

DPRK is committed to enhancing aviation safety and to the resourcing for those activities.

NAA, DPRK always gives the highest priority to the safety in civil aviation activities and considers enhancing the aviation safety level contributes to the development of national economy.

The purpose of the national aviation safety plan (NASP) of DPRK is to continually reduce fatalities and the risk of fatalities through the development and implementation of a national aviation safety strategy.

This NASP presents the national-level measures to address the critical safety issues arising from the civil aviation activities of DPRK and to continuously enhance the national aviation safety performance through the establishment and implementation of the national aviation safety strategies in line with the GASP (2020-2022), AP-RASP (2020-2022) and Annex 19 to the Convention on international civil aviation.

This NASP was developed based on the current civil aviation activity situation of DPRK and national aviation safety risks, and the efforts was taken to ensure that it is in line with GASP (2020-2022) and AP-RASP (2020-2022).

The NASP promotes the effective implementation of the national safety oversight system and the safety management is conducted in risk-based approach and ensures the coordinated approach with other States, regions and the service providers.

SEIs which are being implemented by DPRK are not only to enhance the national aviation safety, but also to contribute to the enhancement of global and regional safety.

All stakeholders of civil aviation safety in DPRK are encouraged to support and implement adequately the NASP to ensure the continuous improvement of aviation safety.

Signature: (signed)

Rim Gwang Ung

Director General, NAA, DPRK

January 2021

1.2   STRUCTURE OF THE NASP

NASP, DPRK presents the strategies for enhancing and strengthening aviation safety for a period of 3 years (2021-2023). It comprises following six sections:

1) Forward

2) The purpose of the NASP

3) The strategy for national aviation safety management

4) The national operational safety risks identified from 2016 to 2020

5) Other safety issues

6) Monitoring on the implementation of the SEIs

1.3   RELATIONSHIP BETWEEN NASP AND THE STATE SAFETY PROGRAMME (SSP)

This NASP addresses the operational safety risks identified in the ICAO GASP and the AP-RASP until DPRK fully implement its SSP.

DPRK is committed to fully implement its SSP by 2025.

SSP of DPRK includes the regulations, processes and activities for the national safety oversight and aviation safety management.

Safety enhancement initiatives listed in this NASP address the organizational challenges and aim to enhance organizational capabilities related to effective safety oversight.

1.4   RESPONSIBILITIES FOR THE DEVELOPMENT, IMPLEMENTATION AND MONITORING OF NASP

The NAA develops, implements and monitors the NASP, in coordination with Hydro-Meteorological Bureau, Maritime Superintendent Bureau, Ministry of National Defense, Ministry of Public Security, Airlines, Aerodrome operators, and ANSPs.

This NASP was developed in consultation with related national stakeholders and the service providers while ensuring the alignment with the ICAO GASP 2020-2022 and the AP-RASP 2020-2022.

NAA develops and implements NASP, and the Flight Safety Inspection Office (FSIO) of NAA is responsible for the daily works related to monitoring and control on the implementation of the national SEIs.

NAA ensures that the implementation of this NASP is coordinated through its aviation safety committee.

1.5   NATIONAL SAFETY ISSUES, GOALS AND TARGETS

NASP addresses the following national safety issues:

1) Runway excursion (RE)

2) Runway incursion (RI)

3) Loss of control in flight (LOC-I)

4) Controlled flight into terrain (CFIT)

5) Mid-air collision (MAC)

6) Safety of ground operations (GCOL/RAMP)

7) Bird strike (Bird)

8) Safety oversight capabilities

To address the safety issues listed above, the NASP, DPRK (2021-2023) establishes the following goals and targets:

1) Goal 1: To continuous reduce the operational safety risks.

   Target 1.1: To maintain the decreasing trend of national accident rate

2) Goal 2: To strengthen safety oversight capabilities

   Target 2.1: To correct SSCs identified under the USOAP CMA, and to reflect any new SSCs in CAP to resolve them within the time frame agreed by ICAO

   Target 2.2: Encourage airlines to maintain IOSA registration

   Target 2.3: Increase EI of USOAP CMA score 75% by 2022, 85% by 2026, and 95% by 2030

   Target 2.4: Conduct workshops or seminars relating to ANS, AIG, AGA at least yearly (2021 to 2023)

3) Goal 3: SSP implementation

   Target 3.1: Implement the foundation of SSP by 2022

   Target 3.2: Implement the effective SSP by 2025

4)   Goal 4: Increase collaboration at the regional level

Target 4.1: Use a regional safety oversight mechanism, another States or other safety oversight organization's ICAO recognized functions in seeking assistance to strengthen the safety oversight capabilities by 2023

Target 4.2: Contribute AP-RASG of safety risks and safety performance indicators (SPIs) by 2022.

Target 4.3: Actively participate in the regional mechanism for data collection, analysis and sharing by 2023

5)   Goal 5: Expand the use of industry programmes

Target 5.1: To encourage all service providers to use globally harmonized SPIs as part of their SMS by 2022

Target 5.2: Increase the number of service providers participating in the corresponding ICAO-recognized industry assessment programmes

6)   Goal 6: Ensure the availability of the appropriate core infrastructures (physical and organizational) for safe operations

Target 6.1: To implement the air navigation core infrastructure by 2023

1.6   OPERATIONAL CONTEXT OF CIVIL AVIATION IN DPRK

There are 2 certified international aerodromes in DPRK.

The airspace of DPRK is classified into Class A, B, E, and G.

There were 35,149 movements in total air traffic over the period of recent 5 years (2016 to 2020).

There is currently 1 air operator certificate (AOC) issued by DPRK for the airline that is operating the international air services, which was issued to Air Koryo.

DPRK also has 1 domestic air operator which mainly operates the turboprop and turbojet aircraft.

The general challenges in civil aviation activities in DPRK are as follows.

80% of the territory is mountainous, annual average temperature is about 10℃ and annual average precipitation is 1000mm with distinctive seasonal changes.

DPRK is surrounded by sea in the west and east, so largely affected by maritime climate and often foggy.

———————

SECTION 2. PURPOSE OF DPRK'S NASP

The NASP is the document addressing the strategic direction for the aviation safety management of DPRK for the period of 2021 to 2023.

NASP includes the followings:

- National safety issues

- National aviation safety goals and targets

- SEIs to correct the identified safety deficiencies and achieve the national aviation safety goals and targets

The NASP addresses in detail the aviation safety parts that are included in civil aviation development master plan of DPRK.

The NASP has been developed using international safety goals, targets and HRCs included in the ICAO GASP (www.icao.int/gasp) and AP-RASP.

The NASP supports the safety improvement at the regional and international levels and includes the operational safety risks and SEIs for individual States recommended and set out in the RASP.

DPRK has included these SEIs in this NASP to implement them in accordance with its specific situations.

References of AP-RASP are provided to the parts of this NASP that are relevant to SEIs included in AP-RASP.

――――――――

Intentionally blank

SECTION 3. DPRK'S STRATEGY FOR AVIATION SAFETY MANAGEMENT

The NASP of DPRK presents the SEIs that were developed based on the organizational challenges (ORG) and operational safety risks (OPS) as presented in the ICAO global aviation safety roadmap, as well as safety issues identified based on civil aviation law and civil aviation safety regulations, standard manuals, orders and instructions.

This NASP is developed and maintained by NAA in coordination with the relevant stakeholders and is updated at least every 3 years.

The NASP includes the following national safety goals and targets for the aviation safety management as well as indicators to monitor the progress made towards their achievement.

Goals	Targets	Indicators	Link to GASP and AP-RASP
Goal 1: Achieve a continuous reduction of operational safety risks	1.1 maintain a decreasing trend of the national accident rate	— Number of accidents — Rate of accident per 1000 departures (accident rate) — Number of fatal accidents — Rate of fatal accident per 1000 departures (accident rate) — Number of fatalities — Number of fatalities per passenger carried (fatality rate) — ercentage of occurrences related to high risk categories (HRCs)	This goal is directly linked to Goal 1 and Target 1.1 of the GASP and linked to Goal 1 and Target 1.1 of the AP-RASP
Goal 2: Strengthen the state safety oversight capabilities	2.1 To correct SSCs identified under the USOAP CMA, and to reflect any new SSCs in CAP and resolve them within the time frame agreed by ICAO (2021 to 2023)	— The number of resolved SSCs identified in USOAP CMA — -The number of resolved emerging SSCs which are newly included in the CAP and resolved within the period agreed by ICAO	This goal is directly linked to GASP goal 2 and target 2.1, and AP-RASP goal 2 and target 2.1

Goals	Targets	Indicators	Link to GASP and AP-RASP
	2.2: To encourage airlines to maintain IOSA registration	Number of IOSA registration of Airline	
	2.3: To improve EI of USOAP CMA score 75% by 2022, 85% by 2026, 95% by 2030	— Overall EI score of DPRK — -Implementation percentage of priority PQs related to a safety oversight system — -Percentage of CAPs submitted	
	2.4: To conduct workshops or seminars relating to ANS, AIG, AGA at least once a year (2021 to 2023)	Number of workshops or seminars conducted annually	

Goals	Targets	Indicators	Link to GASP and AP-RASP
Goal 3: Implement effective SSP	3.1: To implement the foundation of SSP by 2022	— Development of SSP draft — -Percentage of gap analysis — -Progress percentage of SSP implementation plan — -Percentage PQ self-assessment of SSP draft — -Percentage of satisfactory of SSP PQ assessment — -Percentage of CAP for PQ findings that are submitted to ICAO — -Number of meetings including SSP coordination group and working groups	This goal is directly linked to Goal 3 and Target 3.1 and 3.2of the GASP and the Goal 3, Target 3.1 of AP-RASP
	3.2: To implement the effective SSP by 2025	— Effective SSP Implementation — -Maturity level of Annex 19 PQs — -Require the service providers to implement SMS — -Percentage of evaluation of service provider's SMS	

Goals	Targets	Indicators	Link to GASP and AP-RASP
Goal 4: Increase collaboration at the regional level	4.1: To use other States or other safety oversight organization's ICAO recognized oversight functions and regional safety oversight mechanism in seeking assistance to strengthen the safety oversight capabilities by 2023	The number uses the regional safety oversight system's ICAO recognized functions	This goal is directly linked to Goal 4 and Target 4.1 and 4.2 of the GASP
	4.2: To inform AP-RASG of the information on SSP safety performance indicators (SPIs) and safety risk by 2023.	— -Number information on safety risks to AP-RASGs — -Number of sharing SSP SPI with AP-RASG — -Number of forwarding information on safety issues to AP-RASG	
	4.3: To actively participate in the regional mechanism for data collection, analysis and sharing by 2023	— Establish sufficient safety oversight capability to implement effective SSP	

Goals	Targets	Indicators	Link to GASP and AP-RASP
Goal 5: To expand the use of industry programmes	5.1: All service providers to use globally harmonized SPIs as part of their SMS	Number of service providers using globally harmonized SPIs in their SPIs	This goal is directly linked to Goal 5 and Target 5.1 and 5.2 of the GASP
	5.2: To increase the number of service providers participating in the ICAO-recognized industry recognized programmes	Number of service providers participating in the ICAO-recognized industry assessment programmes by 2023	
Goal 6: To ensure the appropriate infrastructure is available to support safe operations	6.1: To implement the air navigation core infrastructure by 2023.	Percentage of implementation	This goal is directly linked to GASP's goal 6 and Target 6.1 of GASP.

The SEIs in this NASP, DPRK are implemented through DPRK's existing safety oversight system and the service providers' SMS.

The SEIs included in the ICAO global aviation safety roadmap are to achieve the national safety goals and targets presented in the NASPs.

Some of the national SEIs are to help the enhancement of global aviation safety as they are linked to the regional and global SEIs.

The full list of the SEIs is presented in the appendix to the NASP.

The NASP also addresses the emerging safety issues.

When the concepts of operations, technologies, public policies, business models or new ideas are emerging in the future, there might be insufficient data necessary for safety analysis on those issues.

Therefore, NAA takes actions proactively to identify the operational risks of those issues, collect the relevant data and correct them, while remaining vigilant on emerging issues.

This NASP addresses the following safety issues, which were identified newly by safety data collection and analysis process of service providers:

1)   Drones operating in the vicinity of aerodromes

2)   COVID-19

3)   Frequent disastrous meteorological phenomena

―――――――――
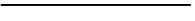
SECTION 4. NATIONAL OPERATIONAL SAFETY RISKS

The NASP includes SEIs that address the operational safety risks derived from lessons learned from operational occurrences and from a data-analysis.

These SEIs include the rule-making; policy development, the safety oversight activities on the targeted areas, safety data analysis and safety promotion.

DPRK publishes an Annual Safety Report which is delivered to the relevant stakeholders.

The summary of accidents and serious incidents that occurred in DPRK and those of aircraft registered in DPRK involved in commercial air transport and aircraft involved in general aviation is shown in the table below.

Year	Fatal accidents	Non-fatal accidents	Serious incidents
Commercial air transport occurrences in DPRK			
2016-2020 (average)	0	0	0
2021	0	0	0
General aviation aircraft occurrences in DPRK			
2016-2020 (average)	0	0	0
2021	0	0	0
Occurrences involving commercial air transport aircraft registered in DPRK			
2016-2020 (average)	0	0	1
2021	0	0	0

With its consideration that the number of fatalities or risk of fatalities are associated with the number of such risk occurrences, DPRK puts the utmost priority to the following HRCs which are identified based on analyses from mandatory and voluntary reporting systems, accident and incident investigation reports, safety oversight activities over the past 5 years, regional analysis conducted by AP-RASG, RSOO, APANPIRG, and AP-RAIO and on the operational safety risks described in the GASP.

The HRCs mentioned below are in line with those listed in the current GASP 2020-2022 and the AP-RASP 2020-2022

1)   Runway Excursion

2)   Runway Incursion

3)   Loss of Control- In flight

4)   Controlled Flight Into Terrain

5)   Mid Air Collision

6)   Ground operations

In addition to the national operational safety risks listed above, the following operational safety risk has been identified additionally:

7)   Bird Strike (Bird)

The aviation accident and incident categories proposed by the CAST/ICAO Common Taxonomy Team (CICTT) were used to assess national operational safety risks. The operational risk categories proposed by ICAO CICTT is found at https://www.icao.int/safety/airnavigation/AIG/Pages/Taxonomy.aspx.

To address the national operational safety risks listed above, DPRK identified the contributing factors leading to HRCs and will implement SEIs as follows, some of which are derived from the ICAO OPS roadmap, contained in the GASP.

HRC 1: RE

1)   Less situational awareness

2)   Violation of SOP of pilots

3)   Landing on contaminated runway, Lack of CRM training

4) Unstabilized approaches

5) Inadequate reporting on the runway surface conditions

6) Long or fast/floated/bounced/firm/off-center/crabbed landings

7) Loss of control on the ground

HRC 2: RI

1) Inadequacy of coordination and communication between air traffic controllers and ground operations staff

2) Less situational awareness of air traffic controllers and pilots

3) Violation of SOP of air traffic controllers and pilots

4) Non-Adherence to standard phraseology in ATC communications

5) Lack of CRM training

6) Lack of training of ground equipment operations staff

7) Insufficient wildlife control programme

HRC 3: LOC-I

1) Violation of SOP of pilots

2) Inadequate training relating to engine malfunction and proper loading requirements

3) Exceeded flight parameters due to excessive control

4) Technical failures or incorrect maintenance leading to stalling

5) Weather/icing conditions leading to the stalling

HRC 4: CFIT

1) Unfavorable terrains and rapidly changing weather conditions

2) Violation of SOP

3) Improper responses of pilot to the warnings of collision with terrain

4) Less situational awareness of pilots

5) Insufficient operational oversight

6) Navigation errors

7) Descent below MSA

HRC 5: MAC

1) Insufficient responses to TCAS RA

2) Airborne conflicts with non-transponder equipped aircraft

3) Airborne conflicts with remote-controlled aircraft

4) ATM events leading to loss of separation

5) Procedural errors leading to potential MAC

6) Equipment failures

7) Insufficient training for ATCOs and pilots

HRC 6: GCOL

1) Non-adherence to aircraft loading procedures (passengers, baggage, cargo and fuel)

2) Non-adherence to aircraft ground handling procedures (ground signaling, towing, de-icing, refueling)

3) Inadequate protection of passengers and ground staff on ramp

4) Lack of training of ground equipment operations staff

5) Non-adherence to positioning, security and parking procedures for ground equipment on the ramp

6) Inadequate FOD detection system

HRC 7: Bird/Wildlife strikes

1) Feeding sources of bird/wildlife in the vicinity of the aerodromes

2) Inadequate technology for bird/wildlife hazard control at aerodromes

3) Environmental management in the vicinity of the aerodromes

4) Inadequate oversight on bird/wildlife control at aerodromes

5) The full list of the SEIs is presented in the appendix to the NASP.

———————————

SECTION 5. OTHER SAFETY ISSUES

In addition to the national operational safety risks listed in the NASP, DPRK has identified other safety issues and initiatives.

These safety issues and initiatives are given the priority as they are aimed at enhancing and strengthening DPRK's safety oversight capabilities and the national aviation safety management.

ICAO defined the eight critical elements (CEs) of a safety oversight system and DPRK is committed to the effective implementation of these eight CEs as part of its overall safety oversight responsibilities.

The eight CEs are presented in the below Figure.

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

Overall EI score							
76.31%							
EI score by CE							
CE-1	CE-2	CE-3	CE-4	CE-5	CE-6	CE-7	CE-8
96.43%	78.08%	96.3%	60.53%	80.61%	76.83%	60.6%	61.11%
EI score by audit area							
LEG	ORG	PEL	OPS	AIR	AIG	ANS	AGA
81.82%	100%	67.14%	67.3%	80.23%	87.14%	64.48%	84.38%

The safety oversight index (SOI) of DPRK is the ICAO indicator of DPRK's safety oversight capabilities.

The calculations by ICAO of DPRK's SOI are as follows.

Overall SOI score	Score in the area of operations	Score in the area of Air Navigation	Score in the area of support functions
2.78	1.56	3.84	2.94

The following 3 other safety issues are considered of the utmost priority because they are systemic issues, which impact the effectiveness of safety risk controls.

These safety issues were identified based on regional analysis from USOAP data, accident and incident investigation reports and safety oversight activities over the past 5 years, the regional analysis conducted by AP-RASG, RSOO, APANPIRG and/or AP-RAIO.

These safety issues are generally the organizational issues that are related with the national safety oversight functions, the implementation of State safety programme and the national service provider's SMS.

The organizational structures, policies and procedures of NAA and the service providers of DPRK are considered in these safety issues.

These safety issues are in line with those listed in the GASP and the AP-RASP.

1) Safety issue 1: The low EI scored areas: ANS, PEL, OPS

The most recent USOAP audit gave the lowest EI scores to these areas so they were given the priorities.

2) Safety issue 2: The critical elements with the lowest EI scores: CE2, CE4, CE6, CE7, CE8

The most recent USOAP audit gave the lowest EI scores to these elements so they were given the priorities.

3) Safety issue 3: The independent functions of AIG

DPRK will implement the SEIs to correct the national safety issues mentioned above, some of which are derived from the roadmap of ICAO GASP.

Intentionally blank

SECTION 6. MONITORING IMPLEMENTATION

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

In addition to the above, DPRK will review the NASP every 3 years, and if required, update the identified operational safety risks, safety issues and the selected SEIs.

The DPRK will periodically review the performance of the SEIs listed in the NASP to ensure the achievement of national safety goals and targets.

If required, DPRK will seek the support of AP-RASG and industry for the timely implementation of SEIs to correct the safety deficiencies and mitigate risks.

During the close monitoring of the SEI implementation, DPRK will update the NASP as required.

DPRK will use the indicators listed in Section 3 of this plan to measure safety performance of the civil aviation system and monitor the national safety goals.

DPRK issues its safety report annually and informs the stakeholders of the relevant up-to-dated information on the progress made in achieving the national safety goals and targets, as well as the implementation status of the SEIs.

In the event that the national safety goals and targets are not achieved, the root causes will be identified and published.

If DPRK identifies any critical operational safety risks, the reasonable measures will be taken to mitigate them as soon as practicable, possibly leading to an unscheduled revision of the NASP.

DPRK adopted a standardized approach to provide information of the regional nature to AP-RASG, using standardized methods.

This allows the region to receive information and process the regional operational safety risks using common methodologies.

Any questions regarding the NASP, its initiatives and further information, may be addressed to the following:

Organization: NAA, DPRK

Mailing address: Sunan District, Pyongyang City, DPRK

Telephone number: 00-850-2-18111 ext. 8108

Fax number: 00-850-2-3814410 ext. 4625

Email: gaca@silibank.net.kp

―――――――

The National Aviation Safety Plan, DPRK
SEIs- National Operational Safety Risks

Safety issue 1: Operational safety risks								
HRC 1: Runway Excursion (RE)								
Goal 1: Achieve a continuous reduction of operational safety risks **Target 1.1**: Maintain a decreasing trend of the national accident rate								
SEI	Actions		Time line	Responsible entity	Stakeholders	Metrics	Priority	Monitoring
SEI-1 Mitigate contributing factors to the risk of RE accidents and incidents (GASP OPS SEI on RE(STATE)- Mitigate contributing factors to the risk of RE accidents and incidents	1.	To develop RSP and operate RST regularly in all aerodromes.	2023	Aerodrome Dept.	Air Operators ANSP Aerodrome Operators Approved Training Organizations	Number of RE per 1000 departures	High	Surveillance on the training activities of Air Operators, ANSP, Aerodrome Operators and Approved Training Organizations
	2.	To establish requirements and conduct the training on go-rounds, crosswind and tailwind landings (above the maximum wind speed defined by manufacturer)	Completed	Flight Standards Bureau				
	3.	To establish effective and timely reporting system for meteorological and aerodrome conditions	2023	Aerodrome Dept. Air Navigation Dept.				
	4.	Certify aerodrome in accordance with ICAO Annex 14, Volume I as well as Doc 9981, PANS-Aerodrome	Completed	Aerodrome Dept.				
	5.	Ensure that procedures to systematically reduce the rate of unstabilized approaches to runways are developed and used	2023	Flight Standards Bureau				
	6.	To develop and apply the runway safety checklist	2023	Aerodrome Dept.				
	7.	Guidance material and training program of runway pavement, maintenance and operations for aerodrome operators	2023	Aerodrome Dept.				

HRC 2: Runway Incursion (RI)							
Goal 1: Achieve a continuous reduction of operational safety risks							
Target 1.1: Maintain a decreasing trend of the national accident rate							
SEI	Actions	Time line	Responsible entity	Stakeholders	Metrics	Priority	Monitoring
SEI-2 Mitigate contributing factors to the risk of RI accidents and incidents GASP OPS SEI on RI (STATE)-Mitigate contributing factors to the risk of RI accidents and incidents)	1. To develop RSP and operate RST regularly in all aerodromes.	2023	Aerodrome Dept.	Air Operators ANSP Aerodrome Operators Approved Maintenance Organization Approved Training Organizations	Number of RE accident/ incident per 1000 flight hours	High	Surveillance on the activities of Air Operators, ANSP, Aerodrome Operators and Approved Training Organizations
	2. To develop and implement the requirements , procedures and training materials that can support situational awareness of controllers, pilots and airside vehicle drivers	2022	Aerodrome Dept. Air Navigation Dept.				
	3. Certify aerodrome in accordance with ICAO Annex 14, volume I as well as Doc 9981, PANS-Aerodrome	Completed	Aerodrome Dept.				
	4. Ensure the use of ATC standard phraseologies in accordance with applicable State regulations and ICAO Docs (e.g. Doc 9432, Manual of Radiotelephony)	Completed	Air Navigation Dept.				
	5. To include the hot spots of aerodromes in the aeronautical information publication (AIP)	2022	Aerodrome Dept. Air Navigation Dept.				
	6. To develop and implement suitable methodologies to remove hazards or mitigate risks associated with identified hot spots	2022	Aerodrome Dept.				
	7. To develop and apply the runway safety checklist	2023	Aerodrome Dept.				
	8. To develop and distribute advisory circular for runway incursion (RI) prevention and pilot training	2022	Aerodrome Dept., Flight Standards Bureau				

HRC 3: 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 the national accident rate							
SEI	Actions	Time line	Responsible entity	Stakeholders	Metrics	Priority	Monitoring
SEI-3 Mitigate contributing factors to the risk of LOC-I accidents and incidents GASP OPS SEI on LOC-I (STATE)- Mitigate contributing factors to the risk of LOC-I accidents and incidents	1. To develop the guidance materials on upset prevention and recovery training materials to include them in conversion and recurrent training programmes using full flight simulator and implement them	Completed	Flight Standards Bureau	Air Operator Flight Simulator and providers. NAA inspectors	Number of LOC-I accident/ incident per 1000 flight hours	High	Surveillance on the Air Operators and the approved training organizations
	2. To develop Model Advisory Circular-Air Operators SOP for Flight Deck Crewmembers	2023	Flight Standards Bureau				
	3. To develop the guidance materials related with the flight control	Completed	Flight Standards Bureau				
	4. To develop advisory circular (situational awareness and energy state management aspects of flight deck automation)	Completed	Flight Standards Bureau				

HRC 4: Controlled Flight Into Terrain (CFIT)

Goal 1: Achieve a continuous reduction of operational safety risks

Target 1.1: Maintain a decreasing trend of the national accident rate

SEI	Actions	Time line	Responsible entity	Stakeholders	Metrics	Priority	Monitoring
SEI-4 Mitigate contributing factors to the risk of CFIT GASP OPS SEI on CFIT (STATE)-Mitigate contributing factors to the risk of CFIT	1. To ensure aircraft are equipped with EGPWS/TAWS in accordance with Annex 6.	Completed	Flight Standards Bureau Airworthiness Bureau	Air Operator	Number of CFIT accident/ incident per 1000 flight	High	Surveillance on the Air Operators and ANSP Mandatory and voluntary safety report
	2. To issue a Safety Advisory to comply with EGPWS/TAWS warning procedures	Completed	Flight Standards Bureau				
	3. To promote the use of GPS position data for EGPWS/TAWS.	2023	Airworthiness Bureau				
	4. To develop Model Regulation on GPWS	Completed	Flight Standards Bureau				
	5. To develop the guidance materials for operators to ensure the effectiveness of GPWS/TAWS equipment	Completed	Flight Standards Bureau				
	6. To develop the guidance materials for training programme on the GPWS use and distribute them to the operators	Completed	Flight Standards Bureau				
	7. To ensure the awareness of the possible risks during approach.	Completed	Flight Standards Bureau				
	8. To develop Instrument Approach Procedures using CDFA	Completed	Air Navigation Dept.				
	9. To implement MSAW systems	2023	Air Navigation Dept.				
	10. To issue Obstacle Alert Warning	Completed	Flight Standards Bureau				
	11. To ensure the timely updates and accuracy of eTOD.	2023	Airworthiness Bureau				

	12. To develop guidance materials on the establishment of a flight data analysis programme	Completed	Flight Standards Bureau				
	13. To develop Advisory Circular on CRM Training Programme.	Completed	Flight Standards Bureau				
	14. To develop the CFIT and ALAR training programme	Completed	Flight Standards Bureau				

HRC 5: Mid Air Collision (MAC)

Goal 1: Achieve a continuous reduction of operational safety risks

Target 1.1: Maintain a decreasing trend of the national accident rate

SEI	Actions	Time line	Responsible entity	Stakeholders	Metrics	Priority	Monitoring
SEI-5 Mitigate contributing factors to risk of MAC accidents and incidents GASP OPS SEI on MAC (STATE)- Mitigate contributing factors to risk of MAC accidents and incidents	1. To develop guidance and regulations to ensure aircraft are equipped with ACAS in accordance with Annex 6.	Completed	Flight Standards Bureau	Air Operators ANSP Approved Maintenance Organization Approved Training Organizations NAA inspectors	Number of MAC accident/ incident per 1000 flight hours	High	Surveillance on the Air Operators and ANSP Mandatory and voluntary safety report
	2. To ensure adherence to ACAS warning procedures	Completed	Flight Standards Bureau				
	3. To improve ATC systems, procedures and tools to enhance conflict management	2023	Air Navigation Dept.				

HRC 6: Safety of ground operations (GCOL/RAMP)							
Goal 1: Achieve a continuous reduction of operational safety risks							
Target 1.1: Maintain a decreasing trend of the national accident rate							
SEI	Actions	Time line	Responsible entity	Stakeholders	Metrics	Priority	Monitoring
SEI-6 Mitigate the contributing factors to the risks of GCOL/RAMP GASP OPS SEI on• GCOL/RAMP (States)— Establishment of safety risk management at the national level.	1. To focus on the risk management of the ground operations organizations during the safety oversight on them	2023	Air Transport Bureau	Air Operator ground operations organizations Approved Maintenance Organization Approved Training Organizations Air Navigation Dept., Aerodrome Dept.	Number of GCOL accident and incident per 1000 departures	High	Surveillance on the ground operations organizations
	2. To focus on the possible risks of ground operations when re-opening the ground operations post COVID-19.	2023	Air Transport Bureau				
	3. To focus on performance of ground operations in the safety oversight.	2023	Air Transport Bureau				
	4. To develop regulations and guidance materials to ensure safe ground operations	Completed	Air Transport Bureau				
	5. To ensure the AOC holders, ANSPs, aerodrome operators to include ground operations in their SMS.	2023	Air Transport Bureau, Air Navigation Dept., Aerodrome Dept. Flight Standards Bureau				
	6. To apply technologies to prevent any possible incident during ground operations	2023	Air Transport Bureau				

HRC 7: Wildlife Strike (WS) at and in the vicinity of Aerodrome							
Goal 1: Achieve a continuous reduction of operational safety risks							
Target 1.1: Maintain a decreasing trend of the national accident rate							
SEI	Actions	Time line	Responsible entity	Stakeholders	Metrics	Priority	Monitoring
SEI-7 Mitigate contributing factors to the risk of WS accidents and incidents GASP OPS SEI on• WS(States)— Establishment of safety risk management at the national level.	1. To conduct collection, reporting, recording and analysis on data of the bird activities and bird strikes at the aerodromes by using the various means.	2023	Aerodrome Dept	Aerodrome operators NAA inspectors	Number of WS accident/incident per 1000 flight hours	High	Surveillance on the aerodrome operators Mandatory and voluntary safety report
	2. To improve the management of vegetation and land use at the aerodromes	2023	Aerodrome Dept				
	3. To ensure the application of the methods for effective bird distractions at the aerodromes.	2023	Aerodrome Dept				
	4. To ensure the aerodrome bird management activities to be conducted in collaboration with the relevant organizations	2023	Aerodrome Dept				
	5. To encourage the usage of environment friendly chemical bird repellent technique at aerodromes in addition to the existing audio and visual repellent techniques.	2023	Aerodrome Dept				
	6. To investigate and take actions to control the activity of birds and other wildlife due to presence of attractants on the surface of runway.	2023	Aerodrome Dept				

Detailed SEIs- State Safety Oversight Capabilities

Safety issue No.2: Establishment of a safety oversight framework

Focus on the following lower EI scored areas

- CE-2: Specific operating regulations
- CE-4: Technical personnel qualifications and training
- CE-6: Licensing, certification, authorization and approval obligations
- CE-7: Surveillance obligations
- CE-8: Resolution of safety Issues
- Personnel licensing (PEL)
- Aircraft operations (OPS)
- Air Navigation Services(ANS)

Goal 2: Strengthen State safety oversight capabilities

Target 2.1: To enhance EI of USOAP CMA to achieve 75% by 2022, 85% by 2026 and 95% by 2030

Target 2.2: To correct SSCs from USOAP CMA and to include any new SSCs in CAP to correct them within the time frame agreed to by ICAO (2021 -2023)

Target 2.3: To encourage the airlines to maintain IOSA registration.

Target 2.4: To conduct workshops or seminars relating to ANS, AIG and AGA at least once a year (2021-2023)

SEI	Actions	Timeline	Responsible entity	Stakeholders	Metrics	Priority	Monitoring
SEI-8 Consistent implementation of ICAO SARPs at the national level GASP ORG SEI 1 (STATE)- Consistent implementation of ICAO SARPs at the national level	1. To give priority to the works of addressing SSCs	2023	Flight Standards Bureau Airworthiness Dept Air Navigation Dept Aerodrome Dept Air Transport Bureau	Air Operator ANSP Aerodrome Operator Approved Maintenance Organization Approved Training Organizations NAA inspectors Flight Safety Inspection Office	EI SOI Rate of Compliance Percentage of completed PPQ	High	Quality of oversight functions Surveillance on the Aerodrome Operators, ANSP and Air Operators
	2. To address all PPQs of USOAP CMA. (AIG: 85% OPS: 85%, AGA: 85%, AIR 85%, ANS 85%, PEL:85%)	2023	Flight Standards Bureau Airworthiness Dept Air Navigation Dept Aerodrome Dept Air Transport Bureau				
	3. To establish primary aviation law and regulations to empower the competent organizations the authority to conduct safety oversight	Completed	Flight Standards Bureau Airworthiness Dept Air Navigation Dept Aerodrome Dept Air Transport Bureau				
	4. To enhance the level of compliance with ICAO SARPs and the CEs (CE-1-CE-5)	2023	Flight Standards Bureau Airworthiness Dept Air Navigation Dept Aerodrome Dept Air Transport Bureau				
	5. To establish and implement the process for the identification and notification of differences with ICAO SARPs (CE-2)	2023	Flight Standards Bureau Airworthiness Dept Air Navigation Dept Aerodrome Dept Air Transport Bureau				

SEI	Actions	Timeline	Responsible entity	Stakeholders	Metrics	Priority	Monitoring
SEI-9 Development of a comprehensive regulatory oversight framework GASP ORG SEI 2 (STATE)-Development of a comprehensive regulatory oversight framework	1. To establish and maintain an independent oversight authority, which includes separation between oversight functions and service functions (CE-3)	Completed	Flight Standards Bureau	Flight Safety Inspection Office	Independent oversight authority Safety oversight functions	High	Quality of oversight functions
	2. To develop the technical manuals and provide safety information needed for technical personnel to effectively perform their safety oversight functions.	2023	Flight Standards Bureau Airworthiness Dept Air Navigation Dept Aerodrome Dept Air Transport Bureau				
	3. To recruit, train and retain the qualified and sufficient technical personnel to perform the oversight functions (CE-3 and CE-4)	2023	Flight Standards Bureau Airworthiness Dept Air Navigation Dept Aerodrome Dept Air Transport Bureau				
SEI-10 Establishment of an independent accident and incident investigation authority, consistent with Annex 13 GASP ORG SEI-3 (State)- Establishment of an independent accident and incident investigation authority, consistent with Annex 13	1. To establish the legal foundations to set up the independent accident and incident investigation authority in accordance with Annex 13 requirements (CE-1 and CE-3)	2023	AIG Bureau		AIG Bureau The necessary technical guidance and tools	High	Quality of AIG functions
	2. To establish an effective system to provide the safety-critical information needed for technical personnel to effectively conduct accident and incident investigations and develop technical guidance and tools	2023	AIG Bureau				
	3. To establish an effective system to recruit, train and retain the technical personnel of accident and incident investigations (CE-3 and CE-4)	2023	AIG Bureau				

SEI	Actions	Timeline	Responsible entity	Stakeholders	Metrics	Priority	Monitoring
SEI-11 Strategic allocation of resources to enable effective safety oversight GASP ORG SEI-4 (State)- Strategic allocation of resources to enable effective safety oversight	1. To confirm administrative or legislative mandates to receive financial resources from government or other external sources (CE-1)	Completed	Flight Standards Bureau Airworthiness Dept Air Navigation Dept Aerodrome Dept Air Transport Bureau	ANSPs Air Operators Aerodrome Operators	Administrative or legislative mandates Organizational System for Safety oversight Status of the provision of financial resources Assessment process	High	Implementation of Law and Regulations
	2. To improve the work for the resources planning and allocation for the organizational system required to conduct effective safety oversight.	2023	Flight Standards Bureau Airworthiness Dept Air Navigation Dept Aerodrome Dept Air Transport Bureau				
	3. To confirm the commitments senior officials of the national and organizations for the sustainable and stable resource provision	2023	Flight Standards Bureau Airworthiness Dept Air Navigation Dept Aerodrome Dept Air Transport Bureau				

	4. Short-term financial resources shall be used as follows.
	  a) Utilize the ICAO SAFE of TCB, or other technical and financial assistances in coordination with RASG/RSOO/ICAO RO.
	  b) Seek assistances from experienced States and other stakeholders in coordination with RASG/RSOO/ICAO RO.
	  c) Seek financial assistances from other financial sources in coordination with RASG/RSOO/ICAO RO.
		2023	Flight Standards Bureau Airworthiness Dept Air Navigation Dept Aerodrome Dept Air Transport Bureau				

	5. Develop a process for assessing changing resource requirements. (CE-1~CE-3)	2023	Flight Standards Bureau Airworthiness Dept Air Navigation Dept Aerodrome Dept Air Transport Bureau				

SEI	Actions	Timeline	Responsible entity	Stakeholders	Metrics	Priority	Monitoring
SEI-12 Qualified technical personnel to support effective safety oversight GASP ORG SEI-5 (State)- Qualified technical personnel to support effective safety oversight	1. To update the system to assess the training and qualifications of the inspectors (CE-4)	2023	Flight Standards Bureau Airworthiness Dept Air Navigation Dept Aerodrome Dept Air Transport Bureau	The relevant departments of NAA	The system of assessing the training and qualifications	High	Quality of the oversight
	2. To identify the annual vacancies of the inspectors and training requirements necessary to implement the oversight mandates (CE-4)	2023					
	3. To establish the human resource plan for recruitment and retention of necessary inspectors (CE-4)	2023			Vacancies of inspectors		
	4. To work with RSOOs, RAIOs to secure the qualified inspectors (CE-4)	2023			The rate of transfer and the number of selection/assignment of the inspectors		
	5. To verify that the training policy and training programme (initial, recurrent, specialized and on the job training) are sufficient to ensure the required competencies necessary for the duties of technical personnel. (CE-4)	2023					
	6. To establish the process of assessing changing needs for qualified inspectors (CE-4)	2023			Human resource plan		

Safety issue No.3: Slow pace of SSP implementation							
Goal 3: Implement effective SSP Target 3.1: To implement the foundation of its SSP by 2022. Target 3.2: To implement an effective SSP by 2025.							
SEI	Actions	Timeline	Responsible entity	Stakeholders	Metrics	Priority	Monitoring
SEI-13 Start of SSP implementation at the national level GASP ORG SEI-13 (State)- Start of SSP implementation at the national level	1. To secure State-level commitment to improve safety.	Completed	Flight Safety Inspection Office.	Flight Standards Bureau Airworthiness Dept Air Navigation Dept Aerodrome Dept Air Operator ANSPs Aerodrome Operators Approved Maintenance Organization Approved Training Organizations	The status of SSP implementation The status of service provider's SMS implementation	High	ICAO iSTARS Quality of surveillance and SSP implementation
	2. To conduct SSP gap analysis and self-assessment in detail	2022	Flight Safety Inspection Office.				
	3. To set up SSP implementation group	Completed	Flight Safety Inspection Office.				
	4. To develop SSP implementation plan	Completed	Flight Safety Inspection Office.				
	5. To develop SMS regulations for the service providers' SMS and identify the SMS implementation.	Completed	Flight Safety Inspection Office.				
	6. To identify and share the best practices for SMS	2022	Flight Safety Inspection Office.				

SEI	Actions	Timeline	Responsible entity	Stakeholders	Metrics	Priority	Monitoring
SEI-14 Strategic allocation of resources to start SSP implementation GASP ORG SEI-14 (State)- Strategic allocation of resources to start SSP implementation	1. To establish the process of planning and allocating resources for SSP implementation and identify areas where resources are needed	2023	Flight Safety Inspection Office.	Flight Standards Bureau Airworthiness Dept Air Navigation Dept Aerodrome Dept Air Transport Bureau	Civil Aviation Law Civil Aviation Safety Regulations	High	Implementation of Law and Regulations
	2. To secure the resources from senior officials of national and relevant authorities and stakeholders for SSP implementation.	2023					
	3. To work with the ICAO RO for the available means (e.g. Technical Co- operation Bureau) to acquire assistance needed for SSP implementation	2023					
	4. To work with RSOO and other States to train the inspectors for them to perform their responsibilities regarding SSP implementation.	2023					

SEI	Actions	Timeline	Responsible entity	Stakeholders	Metrics	Priority	Monitoring
SEI-15 Strategic collaboration with key aviation stakeholders to complete SSP implementation GASP ORG SEI-15 (State)- Strategic collaboration with key aviation stakeholders to start SSP implementation GASP ORG SEI-16 (State)- Strategic collaboration with key aviation stakeholders to complete SSP implementation	1. To identify areas where collaboration/support is needed as part of the SSP implementation plan.	Completed	Flight Safety Inspection Office	Flight Standards Bureau Airworthiness Dept Air Navigation Dept Aerodrome Dept Air Transport Bureau	Number of identified collaborators Number of collaboration activities conducted	High	Monitoring and assessment on the collaboration activities through the coordination committees and regional organizations ICAO iSTARS
	2. To identify relevant collaborators from key aviation stakeholders, including other States that have implemented SSP.	Completed					
	3. To develop an action plan to address the elements identified as missing or deficient during the SSP gap analysis.	2022					
	4. To establish a process to get assistances for SSP implementation, best practices and experts supports through RASG and/or RSOO	2023					
	5. To establish the process to provide SSP trainings (initial training, recurrent training and specialized training) to the personnel concerned in collaboration with other States and RSOO	2023					
	6. To establish the process to share the SSP related safety information, tools and guidance materials in the collaboration with the other States, RASG, RSOO ICAO and other related shareholders.	2023					
	7. To work with the collaborators that are identified in SEI-15 for SSP implementation	2023					
	8. To work with the collaborators to ensure that all SSP related elements are appropriate, operational and effective.	2023					
	9. To establish the system to ensure the sustainable improvement of SSP in the collaboration with all the stakeholders	2023					

SEI	Actions	Timeline	Responsible entity	Stakeholders	Metrics	Priority	Monitoring
SEI-16 Establishment of safety risk management at the national level GASP ORG SEI-17 (State)- Establishment of safety risk management at the national level (Step 1) GASP ORG SEI-18 (State)- Establishment of safety risk management at the national level (Step 2)	1. To establish the legal system to protect the safety data, information and other sources	Completed	Flight Safety Inspection Office	Flight Standards Bureau Airworthiness Dept Air Navigation Dept Aerodrome Dept Air Transport Bureau	Number of mandatory and voluntary report The hazard identification and safety risk management system Number of safety risk management Number of identified SPI and SPT	High	The Quality of safety risk management Efficiency of the reporting system Quality of SPI and SPT Number of SPI contributed to RASG
	2. To establish the national system of mandatory incident report and voluntary safety report.	Completed					
	3. To establish the safety database of monitoring the safety issues and hazards in accordance with the requirements of Doc 9859.	2022					
	4. Establish and maintain the process to identify risks from the collected hazards	2022					
	5. To establish and implement the process of assessing the safety risks according to the identified hazards.	2022					
	6. To develop the safety performance indicators by using the established safety risk management process.	2022					
	7. To develop safety performance measurement methodologies, aligned with the regional safety metrics, using the established safety risk management process	2022					
	8. To establish the acceptable level of safety performance to be achieved through the SSP	2022					
	9. To enhance the safety awareness within the national aviation entities and encourage the exchanging and sharing of data.	2022					
	10. To contribute safety risk information and SSP safety performance indicators to the RASG.	2023					

SEI	Actions	Timeline	Responsible entity	Stakeholders	Metrics	Priority	Monitoring
SEI-17 Acquisition of resources to increase the proactive use of risk modelling capabilities GASP ORG SEI-19 (State)- Acquisition of resources to increase the proactive use of risk modelling capabilities.	1. To identify resources needed to support safety information collection and processing, advanced data analysis, risk modelling and information sharing capabilities.	2023	Flight Safety Inspection Office	Flight Standards Bureau Airworthiness Dept Air Navigation Dept Aerodrome Dept Air Transport Bureau	Number of qualified technical personnel for the implementation of SMS and SSP Resources allocated for SSP implementation	High	Quality of SSP implementation progress
	2. To recruit, train, and retain the qualified technical personnel who are handling the risk modelling	2023					
	3. To ensure that the inspectors are trained to perform safety oversight on service providers that have already implemented SMS.	2022					
SEI-18 Strategic collaboration with key aviation stakeholders to support the proactive use of risk modeling capabilities GASP ORG SEI-20 (State)- Strategic collaboration with key aviation stakeholders to support the proactive use of risk modeling capabilities	1. To 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	2022			Number of identified areas for collaborations Number of sharing and assistances received	High	Surveillance on the State risk modeling capability
	2. To establish a process to work with RASG and/or RSOO (or other regional bodies) for a mentoring system, including providing assistance to States/industry, as well as the sharing of best practices, to support safety culture development and the proactive use of risk modelling.	2023					
	3. To collaborate with national and industry stakeholders to establish a mechanism for the regular sharing and exchange of safety information, analyses, safety risk discoveries/lessons learned and best practices within a confidential and non-punitive environment	2023					

SEI	Actions	Timeline	Responsible entity	Stakeholders	Metrics	Priority	Monitoring
SEI-19 Advancement of safety risk management GASP ORG SEI-21 (State)- Advancement of safety risk management at the national level	1. To establish data sharing connectivity and databases, including the mandatory occurrences reporting system, voluntary safety reporting system, safety audit reports and aviation system statistics (traffic counts, weather information and EI scores, etc.)	2023	Flight Standards Bureau Airworthiness Dept Air Navigation Dept Aerodrome Dept Air Transport Bureau Flight Safety Inspection Office	Air Operators ANSP Aerodrome Operators Approved Maintenance Organization Approved Training Organizations	Number of information shared with service providers	High	Surveillance on the State safety risk management
	2. To establish the risk modelling capabilities to support monitoring system safety and accident/incident prevention	2023					
	3. Encourage information-sharing with service providers	2023					

Safety issue No. 4: Lack of resources and expertise to manage and collect data on a State level, and no formal mechanisms in place that allow for the sharing and benchmarking of information at the regional level	

Goal 4: Increase collaboration at the regional level

Target 4.1: To use a regional safety oversight mechanism, other States or other oversight organization's ICAO recognized functions in seeking assistance to strengthen the safety oversight capabilities by 2023

Target 4.2: To contribute information on safety risks and SSP SPIs to AP-RASG by 2022

Target 4.3: To actively participate in the regional mechanism for data collection, analysis and sharing by 2023

SEI	Actions	Timeline	Responsible entity	Stakeholders	Metrics	Priority	Monitoring
SEI-20 Strategic collaboration with key aviation stakeholders to enhance safety in a coordinated manner GASP ORG SEI- (State) — Strategic collaboration with key aviation stakeholders to enhance safety in a coordinated manner.	1. Establish a mechanism to identify collaborators based on the identified safety deficiencies and develop an action plan for the resolution of those deficiencies. (CE-6 to CE-8) (CE1 to CE-5) 2. To cooperate with regional safety oversight mechanism or other States/organizations with such capabilities	2023 2023	Flight Standards Bureau Airworthiness Dept Air Navigation Dept Aerodrome Dept Air Transport Bureau	Other States RASG RSOO	Number of collaborators identified for seeking the assistances Number of assistance received from the regional organizations or States for the enhancement of State's safety oversight	High	Efficiency of the State safety oversight functions

SEI	Actions	Timeline	Responsible entity	Stakeholders	Metrics	Priority	Monitoring
	3. To establish the process to work with RASG/RSOO for a mentoring/collaboration system, including receiving assistances from the State/service providers as well as sharing of best practices and internal follow-up actions (CE-1 to CE-5, focusing on CE-3)	2023					
	4. To collaborate with RASG/RSOO, other States, ICAO, industry joint programmes and dedicated training centers to develop the strategy to recruit, train and retain the qualified and sufficient technical personnel	2023					
	5. To establish and implement a process to develop, provide and publish the technical guidance, tools and the safety information in collaboration with other States, RSOO, ICAO and/or other stakeholders (CE-5)	2023					
	6. To address HRCs in improving the safety oversight in collaboration with RASG/ RSOO	2023					
	7. To cooperate with regional groups such as the RASG to identify additional resources.	2023					
	8. To use technical guidance, tools and safety information developed in collaboration with other States, RSOO, ICAO and other stakeholders to enable technical personnel to perform their safety oversight functions effectively (CE-6 to CE-8)	2023					
	9. To work with the ICAO Regional Office to use the available means (e.g. Technical Cooperation Bureau) in SSP implementation.	2023					
	10. To cooperate with other States and other organizations and RSOO to train qualified technical personnel to carry out their responsibilities for SSP implementation.	2023					

SEI	Actions	Timeline	Responsible entity	Stakeholders	Metrics	Priority	Monitoring
SEI-21 Strategic collaboration with key aviation stakeholders to implement SSP. GASP ORG SEI-15 (State) — Strategic collaboration with key aviation stakeholders to implement SSP.	1. To identify the areas where collaboration/support is needed as part of the SSP implementation plan.	2022	Flight Safety Inspection Office	Flight Standards Bureau Airworthiness Dept Air Navigation Dept Aerodrome Dept Flight Safety Inspection Office Air Transport Bureau Air Operator ANSPs Aerodrome Operators Approved Maintenance Organization Approved Training Organizations Regional organization and agencies	Number of identified collaborators Number of assistance received from the regional organizations or States for the SSP implementation	High	Surveillance on SSP implementation
	2. To identify relevant collaborators from key aviation stakeholders, including other States that are implementing or have implemented an SSP.	2022					
	3. To develop the action plan to address the deficiencies identified during the SSP gap analysis.	2023					
	4. To establish the process to work with RASG/RSOO for a monitoring including providing assistances to the State/service providers as well as sharing of best practices	2023					
	5. To develop the process to provide SSP training to relevant personnel in collaboration with RSOO and/or other States (initial training, recurrent training and advanced training)	2023					
	6. To establish and implement the process for sharing technical guidance, tools and safety information related to SSP (e.g. advisory circulars, instructions to the staff, safety performance indicators) in collaboration with other States, RASG, RSOO, ICAO and/or other stakeholders	2023					

SEI	Actions	Timeline	Responsible entity	Stakeholders	Metrics	Priority	Monitoring
	7. To work with collaborators to execute the SSP implementation plan	2023	Flight Safety Inspection Office				
	8. To work with collaborators to ensure efficiency of all elements of the SSP	2023					
	9. To establish the system for the continuous improvement of the SSP in collaboration with all relevant stakeholders	2023					
	10. To provide the information on safety risks and SSP safety performance indicators to the RASG.	2023					
	11. To establish the process to work with RASG and/or RSOO (or other regional bodies) for a mentoring system, including providing assistance to States/industry, as well as the sharing of best practices, to support safety culture development and the proactive use of risk modelling.	2023					
	12. To support the effective implementation and continuous improvement of SMS and SSP.	2022					

Safety issue No.5: Slow pace of SMS implementation, as well as low number of participation of service providers in the ICAO-recognized industry assessment programmes.

Goal 5: Expand the use of industry programmes.

Target 5.1: To ensure all service providers use globally harmonized SPIs as part of their SMS by 2022

Target 5.2: To increase the number of service providers participating in the ICAO-recognized industry assessment programmes

SEI	Actions	Timeline	Responsible entity	Stakeholders	Metrics	Priority	Monitoring
SEI-22

Improvement of industry compliance with applicable SMS requirements.

GASP SMS SEI-5-Improvement of industry compliance with applicable SMS requirements. | 1. To ensure the service providers implement SMS commensurate to the size and complexity of their operations in accordance with the national regulations and Annex 19. | 2023 | Flight Standards Bureau

Airworthiness Dept

Air Navigation Dept

Aerodrome Dept

Air Transport Bureau | Air Operator

ANSP,

Aerodrome Operators

Approved Maintenance Organization

Approved Training Organizations | Status of SMS implementation

Number of applicable guidance materials

Number of differences that are reported to the NAA | High | Surveillance on the SMS implementation of the service providers |
| | 2. Ensure utilization of available guidance material to assist with SMS implementation. | 2023 | | | | | |

SEI	Actions	Timeline	Responsible entity	Stakeholders	Metrics	Priority	Monitoring
SEI-23 Resources for service providers to effectively implement SMS GASP SMS SEI-6- Resources for service providers to effectively implement SMS	1. To ensure that NAA and the service providers cooperate each other to identify the facts that resources contributing SMS implementation are not provided with	2022	Flight Standards Bureau Airworthiness Dept Air Navigation Dept Aerodrome Dept. Air Transport Bureau	Air Operator ANSP, Aerodrome Operators Approved Maintenance Organization Approved Training Organizations	Number of areas identified for supports Status of secured commitments of the accountable executives	High	Surveillance on the SMS implementation of the service providers
	2. To identify the areas where resources are needed as part of the SMS implementation plan after the SMS gap analysis.	2022					
	3. To ensure that the service providers establish the process for resource planning and allocation for SMS implementation.	2022					
	4. To secure the commitments from the accountable executives of the service providers to provide the resources for SMS implementation.	2022					

SEI	Actions	Timeline	Responsible entity	Stakeholders	Metrics	Priority	Monitoring
SEI-24 Strategic collaboration with key aviation stakeholders to complete SSP implementation.	1. To ensure that SSP is implemented through the standardization and sharing of SMS of the service providers.	2023	Flight Standards Bureau Airworthiness Dept Air Navigation Dept Aerodrome Dept. Air Transport Bureau	Air Operator ANSP, Aerodrome Operators Approved Maintenance Organization Approved Training Organizations	Number of identified collaborators The status of information sharing with NAA Number and quality of HRC identification	High	Surveillance on the implementation of the service providers
GASP SMS SEI-7-Strategic collaboration with key aviation stakeholders to complete SSP implementation.	2. To promote the sustainable improvement of SSP.	2023					

SEI	Actions	Timeline	Responsible entity	Stakeholders	Metrics	Priority	Monitoring
SEI-25 Establishment of safety risk management at the service provider level GASP SMS SEI-8 — Establishment of safety risk management at the service provider level	1. To ensure establishment of mandatory safety reporting systems.	2023	Flight Standards Bureau Airworthiness Dept Air Navigation Dept Aerodrome Dept Air Transport Bureau	Air Operator ANSP, Aerodrome Operators Flight Safety Inspection Office	Number of mandatory and voluntary reports received Definition of SPI and SPT Number of performance measurement techniques used	High	Surveillance on the SMS implementation of the service providers
	2. To ensure to establish the system of protecting safety information for safety enhancement and the related sources.	2023					
	3. To ensure the establishment of voluntary and confidential hazard/occurrence reporting system as part of the SMS.	2023					
	4. To ensure establishment and maintenance of a safety database for technical personnel of the service providers to monitor system safety issues.	2023					
	5. To ensure establishment and utilization of a safety risk management process.	2023					
	6. To develop safety performance measurement methodologies for harmonized safety metrics of service providers through the established safety risk management process.	2023					
	7. To develop safety performance indicators and associated targets/alerts through the established safety risk management process.	2023					
	8. To encourage the use of globally harmonized metrics for the development and monitoring of safety performance indicators as part of the service providers' SMS.	2023					
	9. To encourage that the service providers share and use the information to identify hazards and mitigate safety risks.	2023					

SEI	Actions	Timeline	Responsible entity	Stakeholders	Metrics	Priority	Monitoring
SEI-26 Allocation of industry resources to support continuous improvement of SSP and SMS GASP SMS SEI-10—Allocation of industry resources to support continuous improvement of SSP and SMS	1. To ensure the competent technical personnel are allocated to support the SSP infrastructure requirements of the service providers. 2. To ensure that the service providers provide the safety analysis results for SSP implementation.	2023 2023	Flight Safety Inspection Office Flight Safety Inspection Office	Air Operator ANSP, Aerodrome Operators Approved Maintenance Organization Approved Training Organizations	Level of competencies of the technical personnel who are assigned to SMS implementation	High	Surveillance on the SMS implementation of the service providers

SEI	Actions	Timeline	Responsible entity	Stakeholders	Metrics	Priority	Monitoring
SEI-27 Strategic collaboration with key aviation stakeholders to support the proactive use of risk modelling capabilities GASP SMS SEI-11 — Strategic collaboration with key aviation stakeholders to support the proactive use of risk modelling capabilities	1. To collaborate with service providers to generalize the best practices in safety data analysis.	2023	Flight Standards Bureau Airworthiness Dept Air Navigation Dept Aerodrome Dept Air Transport Bureau	Air Operator ANSP, Aerodrome Operators Approved Maintenance Organization Approved Training Organizations	Number of the established systems and the identified shareholders	High	Surveillance on the SMS implementation of the service providers
	2. To ensure the sharing of safety risk identification with stakeholders for mitigation and monitoring strategies.	2023					
	3. To ensure active participation of the State and the relevant organizations in risk modelling.	2023					

SEI	Actions	Timeline	Responsible entity	Stakeholders	Metrics	Priority	Monitoring
SEI-28 Advancement of safety risk management at the service provider level GASP SMS SEI-12 — Advancement of safety risk management at the service provider level	1. To ensure the provision and efficiency of safety information and other related sources .	2023	Flight Standards Bureau Air Navigation Dept Aerodrome Dept	Air Operator ANSP, Aerodrome Operators Approved Maintenance Organization Approved Training Organizations	Number of activities and the processes that are conducted or established for the sustainable SMS improvement	High	Surveillance on the SMS implementation of the service providers
	2. To ensure the development of risk modelling to support the monitoring of system safety and accident/incident prevention.	2023	Airworthiness Dept Flight Standards Bureau Airworthiness Dept				
	3. To ensure that the safety information exchange networks is monitored for continuous improvements.	2023	Air Navigation Dept Aerodrome Dept				

Safety issue No.6: Lack of appropriate infrastructure to support safe operations							
Goal 6: Ensure the appropriate infrastructure (physical and institutional) is available to support safe operation. Target 6.1: To implement the air navigation core infrastructure by 2023 (GASP)							
SEI	Actions	Timeline	Responsible entity	Stakeholders	Metrics	Priority	Monitoring
SEI-29 Implement the air navigation core infrastructure.	To implement AMHS	2023	Air Navigation Dept	ANSP NAA inspectors	Percentage of implementation	High	Surveillance on ANSP implementation activities
	To develop the IWXXM software	2022					
	To Update Mode A/C SSR to Mode S	2023					

〔　END　〕