

GUYANA



**NATIONAL AVIATION SAFETY PLAN
2021-2022**

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FOREWORD

I am pleased to inform that the Guyana Civil Aviation Authority has developed a National Aviation Safety Plan 2021-2022.

The National Aviation Safety Plan cascades from the ICAO Global Aviation Safety Plan and the South American Safety Plan. It adopts the ultimate objective of saving as many human lives as possible and reducing accidents in the aviation system to a minimum acceptable level, with the aim of reaching and maintaining zero fatalities in commercial aircraft operations for 2030 and beyond.

This Plan promotes and supports a national aviation safety strategy aimed at continuous improvement of aviation safety in Guyana. This strategy will help Guyana to achieve the objectives of an effective safety oversight system and implementation of its State Safety Programme.

Aviation plays a pivotal role in Guyana's development, both as a vital support for other industries and as a stand-alone sector. This brings its own challenges to the industry and makes it more important for closer collaboration amongst key stakeholders. As partners in aviation safety, I encourage all key stakeholders to embrace the implementation of the national aviation safety plan so that we can ensure continuous improvement of aviation safety during and beyond the projected growth.



Hon. Bishop Juan A. Edghill M.P
Minister of Public Works

Definitions

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

Audit Area. One of eight audit areas pertaining to the Universal Safety Oversight Audit Programme (USOAP), such as: Primary Aviation Legislation/Civil Aviation Act and Civil Aviation Regulations (LEG), Civil Aviation Organisation (ORG); Personnel Licensing and Training (PEL); Aircraft Operations (OPS); Airworthiness of Aircraft (AIR); Aircraft Accident and Incident Investigation (AIG); air navigation services (ANS); and Aerodromes and Ground Aids (AGA).

Contributing Factors. Actions, omissions, events, conditions, or a combination thereof, which, if eliminated, avoided or absent, would have reduced the probability of the accident or incident occurring, or mitigated the severity of the consequences of the accident or incident. The identification of contributing factors does not imply the assignment of fault or the determination of administrative, civil or criminal liability.

Critical Elements (CEs). The critical elements of a safety oversight system encompass the whole spectrum of civil aviation activities. They are the building blocks upon which an effective safety oversight system is based. The level of effective implementation of the CEs is an indication of a State's capability for safety oversight.

Effective Implementation (EI). A measure of the State's safety oversight capability, calculated for each critical element, each audit area or as an overall measure. The EI is expressed as a percentage.

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

Guyana Civil Aviation Authority (GCAA). The designated regulatory Authority responsible for civil aviation safety and security oversight in Guyana.

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

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

Operator. The person, organisation or enterprise engaged in or offering to engage in an aircraft operation.

Safety. The state in which risks associated with aviation activities, related to, or in direct support of the operation of aircraft, are reduced and controlled to an acceptable level.

Safety Audit. A USOAP CMA audit that a State requests and pays for (on a cost-recovery basis). The State determines the scope and date of a safety audit. Also see definition of audit.

Chapter 1

Introduction to the National Aviation Safety Plan

1.1 Overview

Guyana 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 Guyana and its industries. The NASP promotes the effective implementation of Guyana's safety oversight system, a risk-based approach to managing safety, as well as a coordinated approach to collaboration between other States, regions and industry. All stakeholders are encouraged to support the implementation of the NASP as the strategy for the continuous improvement of aviation safety.

The NASP of Guyana is in alignment with the ICAO Document 10004, Global Aviation Safety Plan (GASP) and the South American Safety Plan.

Throughout this document the National Aviation Safety Plan of Guyana will be referred to as "the Plan" or "NASP".

1.2 Structure

The Plan is developed with guidance from the current version of the GASP and presents the strategy for enhancing aviation safety for the period 2021-2022. In addition to the introduction, sections include the purpose of the NASP, strategic approach to managing aviation safety, the national operational safety risks identified, other safety issues addressed in the NASP and a description of how the implementation of the safety enhancements initiatives (SEIs) listed in the NASP is going to be monitored.

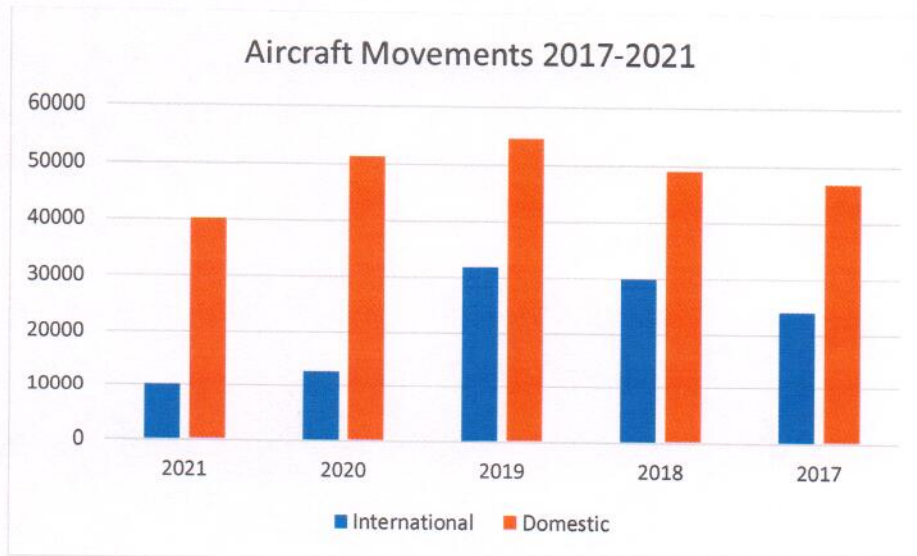
1.3 Relationship between the NASP and the State Safety Programme (SSP)

The Plan addresses operational safety risks identified in the ICAO GASP in the absence of the Guyana's SSP. Guyana is committed to fully implement an SSP by 2024 as a State's responsibility for the management of safety comprising of both safety oversight and safety management, which will be collectively implemented through its SSP. Initiatives listed in this NASP address organisational capabilities related to effective safety oversight.

1.4 Responsibility for the development, implementation and monitoring of the NASP

The Government of Guyana has designated the Guyana Civil Aviation Authority as the agency responsible for the development, implementation and monitoring of its NASP, in collaboration with the national aviation industry. The NASP was developed in consultation with the national aviation industry and other stakeholders.

Certified Aerodromes	<ul style="list-style-type: none"> •2 International Airports
National Airspace	<ul style="list-style-type: none"> •A - FL 245 and above* •C - within a radius of 75NM centered on TIM, 3000 AMSL to FL245, except the CTR. Outside 75NM FL245 to FL95** •G - Guyana's Flight Information Region, excluding * and **
Air Operators	<ul style="list-style-type: none"> •6 AOC holders providing domestic operations, including helicopter operations. •2 conducting international commercial air transport operations.
Aircraft	<ul style="list-style-type: none"> •Piston and turbo-prop •Helicopter



Key amongst the common challenges in Guyana are staffing, training, documentation, collaborative planning, maintenance of hinterland aerodromes and the COVID-19 pandemic.

Chapter 3

Guyana's Strategic Approach to Managing Aviation Safety

The NASP presents the SEIs that were developed based on the organisational challenges (ORG) and operational safety risks (OPS), as presented in the ICAO global aviation safety roadmap, as well as State-specific issues identified by surveillance programmes. This Plan is developed and maintained by the Guyana Civil Aviation Authority in coordination with all stakeholders and is updated at least every three (3) years.

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 the SAMSP and include additional national safety goals, targets and indicators.

<i>Goal</i>	<i>Target</i>	<i>Indicators</i>	<i>Link to GASP and RASP</i>
Achieve a continuous reduction in operational safety risk	Maintain a decreasing trend of accident rate	<ul style="list-style-type: none"> • Number of accidents per thousands of departures • Number of fatal accidents • Number of fatal accidents per thousands of departures • Number of fatalities • Percentage of occurrences related to high-risk categories (HRCs) 	GASP Goal 1.1
2. Strengthen State Oversight capabilities	<p>Guyana to improve the score for effective implementation of the CE's of the State Oversight System (with focus on priority PQs) as follows:</p> <p>By 2022 – 75%</p> <p>By 2026 – 85%</p> <p>By 2030 – 95%</p>	<ul style="list-style-type: none"> • Overall EI score • Meet EI score by timelines • Number of Priority PQs related to safety oversight system implemented. • % of Priority PQs implemented • Timely update the filing of differences. • % of required corrective action plan submitted using OLF 	GASP Goal 2.1

5. Expand the use of industry programme	By 2020 all service providers to use globally harmonised SPIs as part of their SMS	<ul style="list-style-type: none"> • Number of service providers using globally harmonised SPIs as part of their SMS. 	GASP Goal 5.1
	By 2022 increase the number of service providers participating in the corresponding ICAO recognised industry assessment programme.	<ul style="list-style-type: none"> • Number of service providers participating in the corresponding ICAO recognised industry assessment programme. 	GASP Goal 5.2
6. Ensure the appropriate infrastructure is available to support safe operations	By 2022 implement air navigation and airport core infrastructure	<ul style="list-style-type: none"> • Elements of air navigation and airport core infrastructure implemented. 	GASP Goal 6.1

The SEIs in this Plan are implemented through Guyana's 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 SEIs are linked to overarching SEIs at the regional and international levels and help to enhance aviation safety globally.

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

- i. Proliferation of the use of Drones (RPA).
- ii. Rapid expansion of off-shore operations.

investigation reports, safety oversight activities over the past five years as well as on the basis on the regional analysis conducted by and on the operational safety risks described in the GASP. These HRCs are in line with those listed in the GASP as well as the SAMSP.

1. Controlled flight into terrain (CFIT);
2. Loss of control in-flight (LOC-I);
3. Runway excursion (RE);
4. Runway incursion (RI); and
5. Mid-air collision (MAC).

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

1. Airborne conflicts;
2. Aviation documentation and procedures;
3. Deficient maintenance;
4. Airport acceptable rate;
5. Domestic aerodrome maintenance.

The aviation occurrence categories from the CAST/ICAO Common Taxonomy Team (CICTT) were used to assess risk categories in the process of determining national safety risks. The CICTT Taxonomy is found on the ICAO website at:

<https://www.icao.int/safety/airnavigation/AIG/Pages/Taxonomy.aspx>.

To address the national operational safety risk listed above, Guyana has identified the following contributing factors leading to HRCs and will implement a series of SEIs, some of which are derived from the ICAO OPS roadmap contained in the GASP:

HRC 1: Controlled flight into terrain (CFIT)

Controlled flight into terrain (CFIT) event is one the main contributor to aircraft accident that can lead to loss of lives and damage to property. Despite technological intervention there has still been a number of accidents attributed to CFIT which occurs often-times because of lack of vertical and/or horizontal position awareness in relation to ground, water and/or obstacles. To reduce the number of CFIT and the risk of CFIT, the following SEIs is/will be implemented.

- Implemented ICAO Standards for installation of GPWS for turbine-powered aircraft used in commercial air transport.
- Emphasize and enforce all pilots follow SOPs for approach and landing.
- Analyse and follow-up on GPWS events.

- Operators and ANSP to provide detailed classroom training on TCAS and limitations of RA for both pilots and controllers.
- ANSP to conduct regular proficiency checks and refresher courses for ATCOs.

Aviation documentation and procedures:

The GCAA carries out surveillance activities based on an annual surveillance plan developed by the safety directorate. Deficiencies in procedures, manuals and documentation are found. The following SEIs are identified to address these deficiencies:

- Elaborate guidance related to the development and establishment of procedures, manuals etc. to be given in Circulars, Directives, GCARs, etc.
- Ensure development of effective processes, procedures, manuals, etc.
- Promote the conduct of internal surveys by service providers to assess the effectiveness of their procedures.
- Completion of a compliance checklist to ensure regulatory compliance.
- Establish proper maintenance of data and records, including a back-up system.

Maintenance Deficiencies:

It is noted that a significant portion of occurrences is attributable to maintenance and/or component failure. To reduce the risks associated with this safety issue, the following SEIs are encouraged:

- Maintenance staffing level must be commensurate with size of fleet/equipment and/or systems to be maintained.
- Champion mentorship and succession planning programmes.
- Review of the qualification requirements for technical personnel taking into consideration advanced technology.
- Enhance the qualification requirements for senior maintenance personnel for robust supervision.
- Collaborate with service providers to develop non-punitive programmes to encourage voluntary reporting of technical work.

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

<i>Overall EI score</i>							
%							
EI score by CE							
CE-1	CE-2	CE-3	CE-4	CE-5	CE-6	CE-7	CE-8
82.76%	81.69%	75%	69.23%	65.62%	84.04%	62.5%	80%
EI score by audit area¹							
LEG	ORG	PEL	OPS	AIR	AIG	ANS	AGA
95.45%	75%	98.59%	91.67%	92.13%	30.56%	64.76%	66.67%

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. It is a number greater than zero, where "1" represents a level at which the safety oversight capabilities of a State would indicate the minimum expected capabilities considering the number of departures as an indication of the size of that State's aviation system. The calculation conducted by ICAO of Guyana's SOI have resulted in the following scores:

<i>Overall SOI score</i>	<i>Score in the area of Operations</i>	<i>Score in the area of Air Navigation</i>	<i>Score in the area of Support Functions</i>
2.41	3.52	2.1	1.62

The following other safety issues in the Guyana context were considered of the utmost priority because they are systemic issues, which impact the effectiveness of safety risk controls. They were identified based on analysis from USOAP data, accident and incident investigation reports, safety oversight activities over the past five years as well as on the basis of regional analysis conducted by the SAM Region. These issues are typically organisational in nature and relate to challenges associated with the conduct of State's safety oversight functions, implementation of SSP at the national level and the level of SMS implementation by national service providers. They take into consideration organisational culture, policies and procedures within and those of service providers. These safety issues are in line with those listed in the current issue of the GASP, as well as the SAMSP.

- Reduction of operational safety risks
- Strengthening of oversight capabilities
- Implementation of an effective SSP

Chapter 6

Monitoring Implementation

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

In addition to the above, Guyana 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 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. If required, Guyana will seek the support of the SAM Region to ensure the timely implementation of SEIs to address safety deficiencies and mitigate risks. Through close monitoring of the SEIs, Guyana will make adjustments to the NASP and its initiatives, if needed and update the NASP accordingly.

Guyana will use the indicators listed in Section 3 of this Plan to measure safety performance of the civil aviation system and monitor each national safety target. A periodic Guyana 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.

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

Guyana adopted a standardised approach to provide information at the regional level, for reporting to the RASGs. This allows the Region to receive information and assess operational safety risks using common methodologies.

Any question regarding the NASP and its initiatives, and further requests for information, may be addressed to:

Director General
Guyana Civil Aviation Authority
73 High Street
Kingston, Georgetown
Guyana

Tel: 592-225-6822

Email: director-general@gcaa-gy.org

Ensure inclusion of upset recovery and preventative training in training modules for all pilots.	Operators to ensure training module include upset recovery and preventative training, as appropriate, for all pilots during initial and recurrent training.	2023	Air Operators	GCAA Air Operators Pilots	Number of training sessions completed. Number of near runway excursions per 10,000 departures. Number of runway excursions per 10,000 departures.	Approvals. Audits and inspections.
HRC 3: Runway Excursion						
Goal: To achieve a reduction of operational safety risks						
Target: Reduce the number of Runway Excursion events.						
Promote implementation of GPWS in aircraft below 5700kgs.	Promote the implementation of GPWS in aircraft below 5700kgs.	2025	GCAA	Air Operators	Number of installations of GPWS in aircraft below 5700kgs.	Industry consultation.
Emphasize the need for flight safety classes with modules to include all weather operations, causes of runway excursions and increased emphasis on situational awareness.	Training	2023	Air Operators	GCAA Air Operators Pilots	Number of runway excursions per 10,000 departures.	Reports

establishment of procedures, manuals, etc.	procedures and documentation. Develop effective processes, manuals and procedures.	On-going		ANSP Airports GCAA Air Operators ANSP AMOs Airports		Approved Manuals. Audits and inspections.
Promote the conduct of internal surveys by service providers to assess the effectiveness of their procedures.	Conduct internal surveys.				Number of internal surveys done.	
3: Maintenance Deficiencies.						
Goal: To improve the airworthiness of Guyana registered aircraft						
Target: Reduce the number of maintenance related occurrences.						
Update as necessary, qualification requirements for technical personnel taking into consideration advanced technology Review maintenance procedures, processes.	Review and amend as necessary qualifications and competencies for technical personnel Review, update and comply with procedures and processes.	2023 On-going	Air Operators AMO GCAA ANSP Air Operators AMOs ANSP	Air Operators AMOs GCAA ANSP Air Operators AMOs GCAA ANSP	Number of maintenance errors per 10,000 flight hours Number of component or system failure per 10,000 flights.	Mandatory and voluntary reports
Maintenance personnel levels to be commensurate with size of		On-going	Air Operators	GCAA	Number of events attributed to maintenance	MORs