INTERNATIONAL CIVIL AVIATION ORGANIZATION

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Agenda Item: Agenda Item 4: Implementation of safety and air navigation goals, targets and indicators, including priorities set in the Regional Aviation Safety and Air Navigation Plans

Strengthening Occurrence Reporting, Just Culture and Systemic Aviation Safety Management in the Africa–Indian Ocean region

(Presented by Kenya)

SUMMARY
This working paper examines how effective occurrence reporting, a positive safety culture and a systems-based approach to safety management can strengthen aviation safety across the Africa–Indian Ocean (AFI) region. The paper highlights the importance of accessible reporting mechanisms, appropriate protection of safety information, fair and proportionate accountability, timely feedback to reporters, and systematic examination of the human, technical, operational and organizational factors contributing to safety occurrences. It further emphasizes the integration of occurrence reporting into SSPs and SMSs, supported by effective safety-data analysis, risk-based regulatory oversight and regional cooperation. The paper proposes practical safety enhancement initiatives to promote trust in reporting, strengthen accountability and information sharing, address underlying safety risks, and translate lessons learned into measurable improvements in aviation safety performance. Action by the Meeting is at paragraph 3.

Reference	• ICAO Annex 19 — Safety Management. • ICAO Safety Management Manual (Doc 9859). • Global Aviation Safety Plan (GASP) 2026–2028 • AFI Regional Aviation Safety Plan (AFI-RASP)
Strategic Objectives	A - Every Flight is Safe and Secure

1. INTRODUCTION

1.1 Aviation safety relies on regulatory compliance and proactive identification, reporting, and mitigation of hazards through effective risk controls and organizational learning, rather than waiting for accidents or serious incidents to occur.

1.2 Effective safety management relies on information from routine operations, including errors, near misses, technical defects, and organizational factors, to identify and address emerging risks before they result in accidents or serious incidents.

1.3 Beyond Blame: A Systems Approach to Aviation Safety Management emphasizes examining the wider operational, organizational, and regulatory factors influencing safety occurrences, rather than focusing solely on individual actions or responsibility.

1.4 A system-based approach does not remove individual responsibility or weaken regulatory enforcement. Rather, it promotes a more informed and proportionate response by distinguishing inadvertent errors from deliberate violations and unacceptable conduct, while examining the conditions that allowed hazards to arise or remain uncontrolled.

1.5 This paper examines how States and aviation stakeholders can use regulatory frameworks and practical safety-management arrangements to promote a reporting environment in which personnel are encouraged to disclose safety concerns, organizations learn from operational experience, and regulatory authorities apply accountability in a fair, consistent and safety-focused manner.

2. DISCUSSION

2.1 Beyond blame: a systems-based approach to aviation safety

2.1.1 Traditional responses often focus on individual actions or omissions, potentially overlooking underlying hazards and allowing similar occurrences to recur.

2.2.1 A systems-based approach examines human performance, technical systems, organizational processes, and operating conditions, including procedures, training, equipment, workload, supervision, and resource availability.

2.3.1 Safety investigations should examine broader contributing factors, such as task complexity, fatigue, technical information, tooling, workload, environmental conditions, training, and operational pressures, rather than attributing occurrences solely to individual errors.

2.4.1 This approach identifies immediate and underlying causes, enabling effective corrective and preventive measures that address systemic weaknesses rather than relying exclusively on warnings, retraining, or disciplinary action.

2.5.1 Regulatory reviews, investigations, and oversight should ensure both appropriate accountabilities, where warranted, and effective measures to prevent recurrence.

2.2 Regulatory foundations for effective safety reporting

2.2.1 ICAO Annex 19 establishes the international safety management framework, supporting State Safety Programmes (SSPs), Safety Management Systems (SMSs), and the collection, analysis, exchange, and protection of safety information.

2.2.2 States should establish national regulatory requirements for occurrence reporting, covering reporting obligations, timelines, responsible entities, information management, and review mechanisms, consistent with applicable ICAO Standards and Recommended Practices.

2.2.3 Mandatory reporting ensures notification of specified occurrences, while voluntary and confidential reporting mechanisms facilitate the disclosure of hazards, near misses, and safety concerns, subject to applicable legal and procedural safeguards.

2.2.4 Regulatory authorities should assess the accessibility and effectiveness of reporting systems across applicable aviation organisations, including whether reports are submitted, acknowledged, assessed, investigated where necessary, and used to inform risk controls and safety decisions.

2.2.5 Regulatory oversight should evaluate the entire reporting process, from submission and assessment to feedback, risk mitigation, corrective action, and verification, to ensure reporting leads to measurable safety improvements rather than merely administrative records.

2.3 Developing a positive reporting culture

2.3.1 An effective reporting culture requires trust that reports will lead to meaningful action and be handled fairly, without fear of retaliation, reputational damage, disproportionate disciplinary action, or inappropriate disclosure.

2.3.2 A positive reporting environment encourages prompt reporting of errors, near misses, hazards, and unsafe conditions, supported by clear communication on reporting procedures, information handling, applicable protections, and fair treatment of potential non-compliance or misconduct.

2.3.3 The following measures can support positive culture objectives:

a) **Safety Reporting Systems:** Establish accessible mandatory, voluntary and, where appropriate, confidential reporting channels for hazards, errors, near misses and safety concerns.
b) **Reporting Procedures and Accountability:** Establish clear procedures for receiving, assessing, investigating, resolving and closing safety reports, including verification of corrective actions.
c) **Confidentiality and Protection:** Protect reporters' identities and sensitive safety information in accordance with applicable laws and established procedures.
d) **Feedback and Communication:** Provide timely feedback to reporters and communicate safety lessons and corrective actions to relevant personnel.
e) **Positive Safety Culture:** Promote shared commitment to safety, open communication, informed decision-making and continuous evaluation of safety practices.
f) **Continuous Improvement:** Encourage constructive feedback, shared responsibility for managing risks, and monitoring of safety actions to ensure their effectiveness.

2.3.4 Timely feedback builds trust and encourages continued reporting by demonstrating that concerns are considered and, where appropriate, lead to improvements or clear explanations for decisions.

2.3.5 An increase in voluntary or hazard reports may indicate improved reporting culture rather than declining safety performance and should be assessed alongside occurrence severity, exposure data, risk trends, and other safety indicators.

2.3.6 Regulators and service providers should assess safety performance using multiple indicators, focusing on effective hazard identification and risk management rather than report numbers alone.

2.4 Just culture, accountability and regulatory enforcement

2.4.1 Regulatory frameworks should clearly distinguish between inadvertent errors, at-risk behaviour, deliberate non-compliance, gross negligence, and willful disregard for safety, in accordance with applicable laws and organizational policies.

2.4.2 Regulators and service providers should apply just-culture principles to ensure fair and proportionate treatment, protecting inadvertent errors from automatic punishment while maintaining accountability for deliberate violations and reckless conduct.

2.4.3 Decisions on accountability should consider the circumstances of the occurrence, individual competence, procedural clarity, operational pressures, and organizational factors contributing to the event.

2.4.4 Regulatory enforcement should remain evidence-based, consistent with applicable legislation, and appropriately distinguished from safety investigations aimed at identifying hazards and preventing recurrence.

2.4.5 Safety information should be protected through clear legal and procedural safeguards, including confidentiality and de-identification where appropriate, without undermining lawful disclosure or regulatory and judicial processes.

2.4.6 AFI region regulators and service providers should communicate just-culture policies, train personnel handling reports, document decision-making criteria, and periodically evaluate the effectiveness of reporting and enforcement arrangements.

2.5 Integrating occurrence reporting with SSP and SMS

2.5.1 Regulatory frameworks should require occurrence-reporting information to be integrated into hazard identification, risk assessment, safety assurance, and continuous improvement processes within State Safety Programmes (SSPs) and Safety Management Systems (SMSs).

2.5.2 States should utilise the SSP to coordinate safety-data analysis, establish national safety priorities, conduct risk-based oversight, and monitor safety performance. Service providers should use their SMSs to identify hazards, assess risks, implement mitigation measures, and verify their effectiveness.

2.5.3 Regulatory authorities should ensure that occurrence reports are analysed alongside other relevant safety information, including:

a) Accident and incident investigation findings and safety recommendations;
b) Certification, surveillance, and audit findings;
c) Technical defects, maintenance, and reliability data;
d) Flight-data and operational monitoring information, where applicable;
e) Voluntary hazard reports and near-miss information;
f) Safety-performance indicators and trends; and
g) Relevant safety information shared by States, service providers, and recognised safety organisations.

2.5.4 States and service providers should analyse consolidated safety information to identify recurring hazards, common contributing factors, and emerging risks, enabling coordinated corrective action across relevant aviation stakeholders.

2.5.5 States should establish processes for translating safety-data analysis into measurable actions, with defined responsibilities, implementation timelines, and effectiveness-monitoring arrangements. In this regard, ICAO Doc 10159, Safety Intelligence Manual, provides guidance on analysing and sharing safety information to support evidence-based regulatory and operational decisions.

2.6 Regional cooperation and information sharing

2.6.1 AFI States should recognize the cross-border implications of aviation safety hazards and strengthen regional cooperation in identifying common risks and sharing safety lessons.

2.6.2 States should establish appropriately governed mechanisms for sharing de-identified occurrence trends, safety recommendations, emerging hazards, and lessons learned, in accordance with applicable national laws, confidentiality, and data-protection requirements.

2.6.3 Regional safety-information exchange should prioritise risk mitigation and safety improvement while protecting reporting confidence and preventing inappropriate use of information for reputational comparisons or unrelated punitive purposes.

2.6.4 AFI States should promote collaborative training for investigators, regulatory inspectors, safety managers, and safety-data analysts to strengthen consistency in reporting, systems-based analysis, information protection, and proportionate accountability.

2.6.5 Regional technical forums should facilitate the exchange of best practices on reporting systems, confidential reporting, occurrence classification, safety-data quality, risk assessment, and corrective-action monitoring.

2.6.6 These initiatives should complement ICAO regional safety-planning arrangements by strengthening the capacity of States and aviation stakeholders to implement national and regional safety priorities.

2.7 Implementation and monitoring

2.7.1 States and relevant regional bodies should integrate safety enhancement initiatives into existing SSP, SMS, and RASP implementation frameworks, with clearly defined safety issues, actions, responsibilities, stakeholders, timelines, resources, and effectiveness measures.

2.7.2 AFI States may consider implementing below proposed initiatives in accordance with national safety priorities, applicable legal and regulatory frameworks, and available resources.

a) Strengthen occurrence-reporting frameworks.
b) Improve reporting accessibility, confidentiality and confidence.
c) Promote systems-based safety analysis.
d) Enhance safety-data analysis and integration into SSP/SMS processes.
e) Strengthen fair and proportionate accountability.
f) Expand regional safety-information sharing and learning.
g) Monitor safety outcomes through established safety-performance indicators.

2.7.3 States should, where feasible, establish baseline measurements before implementing new initiatives and set targets appropriate to the maturity of their reporting systems and operational context.

2.7.4 States should distinguish implementation measures from safety outcomes when monitoring the effectiveness of initiatives.

2.7.5 States should review progress through existing SSP governance and regional safety-planning mechanisms, address implementation gaps and resource constraints, and take corrective action where necessary.

2.7.6 States should evaluate initiatives based on their effectiveness in identifying and managing safety risks, strengthening regulatory and organisational learning, and improving aviation safety performance.

2.8 Expected benefits for aviation safety in the AFI region

2.8.1 A coordinated approach to occurrence reporting and systems-based safety management can provide several benefits to States and aviation stakeholders across the region, including but not limited to the following:

a) Improved reporting can provide earlier visibility of hazards and emerging risks, enabling preventive action before serious occurrences take place.
b) More consistent approach to systems-based analysis can help organisations identify recurring organisational and operational weaknesses rather than addressing only the immediate circumstances of individual events.
c) Clear and proportionate accountability arrangements can support regulatory compliance while encouraging the reporting of inadvertent errors and unsafe conditions. This can improve the quality and completeness of safety information available for decision-making.
d) Regional information sharing can enable States to learn from each other's experience, identify common risks and make better use of limited technical and financial resources.
e) The integration of reporting, safety analysis and corrective action into SSP and SMS arrangements can strengthen the link between safety information and measurable safety outcomes, supporting the objectives of the GASP and applicable AFI regional safety plans.

3.0 ACTION BY THE MEETING

The meeting is invited to:

a) Note the information provided in this paper;
b) Encourage States and aviation service providers to review their occurrence-reporting mechanisms, safety-information protection arrangements and processes for providing feedback to reporters, consistent with applicable international standards and national legislation;
c) Encourage the application of fair, consistent and proportionate accountability arrangements that distinguish inadvertent errors from deliberate violations and other unacceptable conduct, without compromising lawful regulatory enforcement;
d) Encourage States to consider incorporating appropriate safety enhancement initiatives on occurrence reporting, systems-based analysis and safety culture into their national safety plans and existing SSP implementation arrangements;
e) Encourage regional cooperation, capacity-building and the exchange of appropriately protected safety information and lessons learned among AFI States and relevant aviation stakeholders; and
f) Request ICAO, AFCAC, RSOOs and regional and international stakeholders to promote positive safety culture.