مكاملة
Mukamalah

Safety Management Manual – SMM

Issue / Revision / Date

01 / 00 / 20-FEB-2024

Document No.

MAC-SMM-XXX

0. DOCUMENT ADMINISTRATION AND CONTROL

0.1 GACA APPROVAL

GACA eBook Vol.4

1. This official Mukamalah Aviation manual complies with stringent General Authority of Civil Aviation Regulations (GACAR). The General Authority solely approves its use within Mukamalah.
2. Should any discrepancies arise between this manual and GACAR requirements, prioritize the latter. In such cases, we will promptly update this manual, adhering to GACA eBook Vol.4, Ch.12, Sec. 4.
3. This manual's content is accurate as of Revision 0 of the List of Effective Pages (LEP), dated February 20, 2024.
4. This manual becomes “uncontrolled” when printed.

الهيئة العامة للطيران المدني
General Authority of Civil Aviation

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Signature:		
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0.2 MANAGEMENT APPROVAL

1. This manual is a part of the Company manual system and shall comply with provisions established in the Corporate Policy Manual, as applicable, for content, policy, writing standards and formatting.
2. Manual Owner: Director of Safety and Quality
3. Responsibility: Manual content and implementation.

Document Number:	MAC-SMM-XXX
Title:	MANUAL TITLE
Issue / Revision:	01 / 00

Prepared by:		Date:
Title:		
Signature:		

Reviewed by:		Date:
Title:		
Signature:		

Approved by:		Date:
Title:		
Signature:		

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0.3 TABLE OF CONTENTS

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0.4 REVISION HIGHLIGHTS

This table summarizes the major changes that are made to each revision and not all changes. Throughout each review cycle, subsequent entries may change, prior entries or proposed changes may be held, disregarded and/or made obsolete. This is a summary of input received throughout the duration. Changes throughout the manual are indicated by vertical revision bars.

Note: The vertical bar (change bar) in the margin indicates a change, addition, or deletion in the adjacent text for the current revision of that page only.

Issue	Rev	Rev Date	Summary Of Change (S)	Received Via
01	00	XX FEB. 2024	N/A – Initial Release	NA

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0.5 RECORD OF NORMAL REVISIONS

Issue	Rev	Rev Date	Inserted By	Insert Date / Sign
00	00	XX FEB. 2024	N/A – Initial Release	NA

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0.6 RECORD OF TEMPORARY REVISIONS

Temporary Revision No.	Section No.	Page No.	Change Highlights	Effective Date

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0.7 LIST OF EFFECTIVE PAGES

Issue	Sec-Page	Rev / Date

Issue	Sec-Page	Rev / Date

Approved by:	
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0.8 DISTRIBUTION LIST

Doc Holder / Location	Type Of Format	Copy Number
Master Copy		
Director of Flight Operations		
Chief Pilot		

Note:

Electronic Notification to Staff:

Digital versions of all current Company and Technical documentation are published in DMS for easy access to employees.

Printed Copies:

Any printed copies of this document are uncontrolled documents and are to be marked "Uncontrolled When Printed". The only exception to this is for the Controlled, printed copies of this document that have been distributed in detail.

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0.9 DOCUMENT STRUCTURE AND HIERARCHY

0.9.1 Preface

This manual is issued is accordance with regulations 4, 5, 7, 91, 109, 117, 119 and 121 of the General Authority of Civil Aviation (GACA) of the Kingdom of Saudi Arabia. It also complies with the terms and conditions of the Operator's Certificate and Operations Specifications issued to the Company by the Authority. The term 'the Company' or 'Mukamalah Aviation' in this document refers to Mukamalah Aviation Company Ltd.

This Manual is intended to ensure on-going effectiveness in achieving desired operational outcomes and ensure continuous improvement of processes and procedures. It also reflects management's commitment to quality, security, and safety as a fundamental guiding principle. The manual emphasizes the organization's commitment to a just culture, where human error is not punished, and communication channels are open to allow information to flow freely across the organization.

0.9.2 Publications Hierarchy

All Mukamalah Aviation manuals fall in the documentation hierarchy below:

1. Level 1: Corporate and governance level policy documents.
2. Level 2: Division/department level policy, process, and procedure documents.
3. Level 3: Instructions, checklists, and forms.

Manuals at the top of the hierarchy set parameters that lower-level manuals must comply with.

The following flowchart sets out the types of information, their level in the documentation hierarchy.

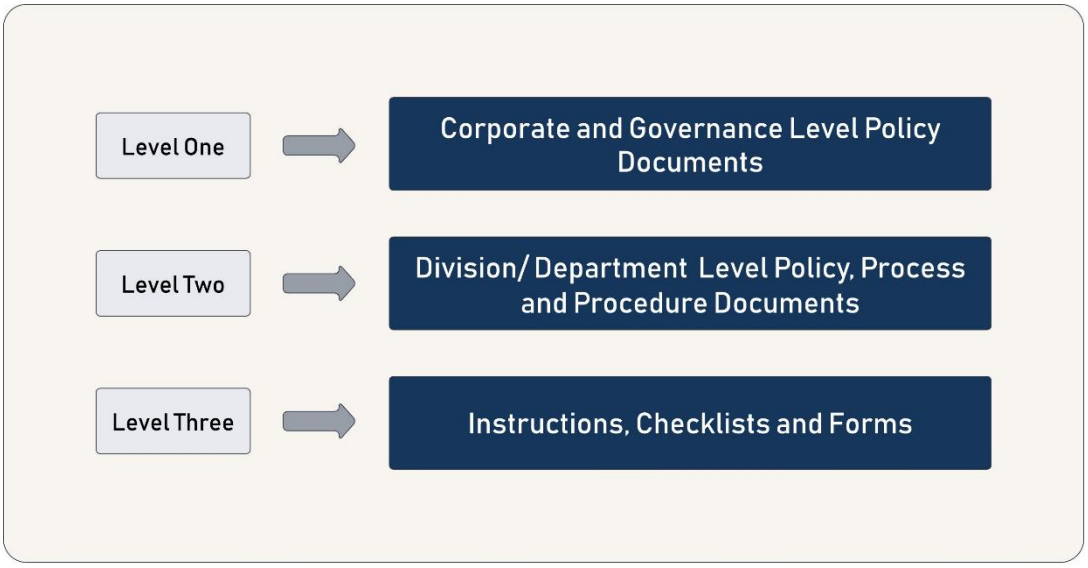

Figure 1 – MAC Publication Hierarchy

0.9.3 Manual Owner

Refer to CPM section 2.6.4

0.9.4 Document Format and Style Guide

Refer to CPM section 2.6.2

0.10 REVISION CONTROL

0.10.1 System of Amendment

Refer to CPM section 2.4.2.4

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0.11 ABBREVIATIONS, ACRONYMS & DEFINITIONS

0.11.1 Abbreviations and Acronyms

A	
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0.11.2 Definitions

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0.12 USE OF PROCEDURAL WORDS

Refer to CPM section 2.3

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1. SAFETY POLICY NEED TO BE REPLACED IN SMM 1.1

1.1 SAFETY POLICY

GACAR 5.3

1. The Safety Management System (SMS) shall be designed to guarantee adherence to all pertinent regulatory requirements established within the General Civil Aviation Regulations (GACAR). This ensures that the SMS functions within a compliant framework, fostering a culture of safety and risk mitigation within the Mukamalah Aviation.

2. In accordance with GACA Part 5 regulation, Mukamalah Aviation is mandated to possess a Safety Management System (SMS) which must establish and maintain the following essential components:

    a. Safety policy in accordance with the requirements of Subpart B

    b. Safety risk management in accordance with the requirements of Subpart C of this part

    c. Safety assurance in accordance with the requirements of Subpart D of this part

    d. Safety promotion in accordance with the requirements of Subpart E of this part

    e. Sector specific requirements prescribed in the applicable appendices of this part.

    f. Recordkeeping requirements in Subpart F of this part.

3. The Company is committed to operating at the highest standards of safety by implementing and maintaining an active safety management system. Safety is a corporate value of this company, and we believe in providing our employees and customers with a safe environment.

4. To ensure this commitment is achieved, I support open reporting on all safety issues and encourage all personnel to report accidents, incidents, safety hazards and risks, concerns, and suggestions through any means available formal or informal. No employee shall be asked to compromise Company or industry safety standards for the sake of meeting a business objective or task.

5. I pledge that no action will be taken against any employee who discloses a safety concern through any means available, formal, or informal unless such a disclosure reveals (beyond any reasonable doubt) an illegal act, gross negligence, or a deliberate or willful disregard of regulations or procedures has been identified.

6. If a person is in breach of this safety policy, either due to gross negligence or deliberate or willful disregard of regulations or procedures; the event will be handled in accordance with the Just Culture process.

7. Our highest safety objective is to proactively identify hazards and their associated risks with the full intent to minimize their potential negative affect to our people, assets, customers, and to the environment. To do this, Management is committed to the following:

    a. Identify, assess, and take necessary action on any safety risk that poses a hazard.

    b. Develop, implement, maintain, and improve strategies and processes to ensure that all our activities take place under an appropriate allocation of organizational resources.

c. Comply with and exceed (whenever possible) legislative, state regulatory and standard requirements to include the reporting of safety data and safety issues to the regulatory authority.

d. Ensure that sufficiently skilled and trained human resources are available to implement safety strategies and processes.

e. Ensure that all staff are provided with adequate appropriate aviation safety information, training, and tasks are allocated to match their skill set.

f. Establish and measure our safety performance against realistic safety performance indicators and targets as set forth by our safety objectives.

g. Improve our safety performance through continuous monitoring, measuring, and adjusting of safety objectives and targets.

h. Identify measures and minimize the impact on the environment by utilizing nonrenewable resources responsibly.

i. Reflect organizational commitment regarding safety, including promoting a positive safety culture.

j. A safety reporting policy defines requirements for:

   i. Employee reporting of safety hazards or issues; and

   ii. Reporting of safety data and safety issues to the President.

k. Identify unacceptable behavior and conditions for disciplinary action.

8. Mukamalah Aviation has an emergency response plan to ensure the orderly and efficient transition between normal and emergency operations, followed by a smooth return to normal operations. This plan must adhere to the specific requirements outlined in GACAR § 5.27.

9. The safety policy regularly reviews by the accountable executive to ensure it remains relevant and appropriate to the certificate holder's organization.

10. The ultimate responsibility for safety in our department rests with me as the Accountable Executive. Responsibility for making our operation safer lies with every one of us – from Department Managers to front-line personnel. Management personnel are responsible for implementing the safety management system in their respective areas of responsibility and will be held accountable to ensure that all reasonable steps are taken. Every employee has the authority to "stop work" if they witness an unsafe act or operation and I encourage you all to be vigilant, ensuring the safety of each and every individual and assets of the Company.

_____

Khalid H. Alnatour

CEO & Accountable Executive

1.7 SMS ACCOUNTABILITIES AND RESPONSIBILITIES TO BE ADDED IN 1.7

1. The Directors and officers of the Company are accountable for the continued support of the Safety Management System, and for providing the necessary resources in order to attain the strategic safety objectives set forth herein, and for the SMS to function effectively.
2. As stipulated within the organization's safety policy, Mukamalah Aviation explicitly define the safety accountability of the following individuals:
3. Accountable executive: Ultimately responsible for the implementation and effectiveness of the organization's Safety Management System (SMS).
4. Management: Bears responsibility for developing, implementing, and maintaining SMS processes within their respective areas of oversight, including but not limited to:
    a. Hazard identification and risk assessment
    b. Ensuring the effectiveness of implemented safety risk controls
    c. Promoting safety within their teams, as outlined in relevant regulations
5. Employees: Obligated to contribute to the organization's safety performance by adhering to established procedures, reporting safety hazards, and actively participating in safety initiatives.

1.7.1 ACCOUNTABLE EXECUTIVE IN 1.7.1 ITEM C

1. The General Civil Aviation Regulations (GACAR) outline specific responsibilities for certificate holders issued by the President. These responsibilities encompass three key areas:

    a. Financial Resource Management: Mukamalah Aviation is entrusted with the control and responsible allocation of financial resources necessary to conduct operations under the issued certificates or authorizations. This ensures the organization possesses the necessary financial foundation to maintain its operations safely and compliantly.

    b. Human Resource Management: Mukamalah Aviation responsible for effectively managing the human resources required for the authorized operations. This includes tasks like recruitment, training, and ongoing development of personnel to ensure they possess the necessary skills, knowledge, and qualifications to perform their duties safely and effectively.

    c. Safety Performance Oversight: Mukamalah Aviation holds ultimate responsibility for the safety performance of all operations conducted under the issued certificates or authorizations. This entails establishing and maintaining a robust safety management system, fostering a culture of safety within the organization, and continuously monitoring and improving safety performance.

2. Qualifications:

    a. Graduation from an accredited college or university with a Bachelor’s degree or Certification of training in Aviation Safety Management.

    b. Minimum of 10 years in an aviation or airline environment.

    c. Holds an Airline Transport Pilot license under GACA or FAA.

    d. In-depth knowledge of GACAR regulations

    e. Full understanding of the certificate holder's operations specifications.

    f. Excellent communication and presentation skills.

3. Responsibilities:

    a. Ensure that the SMS is properly implemented and performing in all areas of the certificate holder's organization.

    b. Develop and sign the safety policy of the certificate holder.

    c. Communicate the safety policy throughout the certificate holder’s organization.

    d. Regularly review the certificate holder's safety policy to ensure it remains relevant and appropriate to the certificate holder.

    e. Regularly review the safety performance of the certificate holder and direct actions necessary to address substandard safety performance in accordance with GACAR § 5.75.

    f. Ensure that the notification and reporting of aviation accidents, serious incidents and other aviation incidents are made as prescribed under GACAR Part 4 and other GACAR parts.

    g. Promote a reporting culture within the certificate holder's organization including the provision of voluntary reports to the President.

4. Required Training:
   a. SMS for Managers
   b. ERP - Incident Manager

1.7.2 DIRECTOR OF SAFETY & QUALITY ADD IN 1.7.2 ITEM B

Qualifications

1. Graduation from an accredited college or university with a bachelor's degree or Certification of training in Aviation Safety Management.
2. Minimum of 10 years in an aviation or airline environment.
3. Holds an Airline Transport Pilot license under GACA or FAA (preferred)
4. Certification of training in Aviation Safety Management.
5. Safety management experience
6. Technical background to understand the system.
7. Analytical and problem-solving skills.
8. Project management skills
9. Understanding of human factors principle
10. Communication skills.

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3. CHAPTER 3

3.2 PERFORMANCE MEASUREMENT AND MONITORING (REPLACED 3.2)

1. Mukamalah Aviation employs a performance measurement system to monitor and assess its safety program. This system utilizes two key components:

2. Safety Performance Indicators (SPIs)

   a. Safety performance indicators are identified, monitored, and tracked by each operational Department. Each SPI has an alert and target which is evaluated on an annual basis.

   b. Department SPIs are compiled and shared with GACA on a quarterly basis.

3. Safety Performance Targets (SPTs).

   a. Achievable goals for each designated SPI.

   b. Targets are established with careful consideration of the resources available to the company.

   c. Ensuring they are realistic and attainable.

4. To ensure timely identification of potential safety issues, pre-defined alert levels are established for each SPI. These thresholds represent deviations from the normal operating range, triggering warnings that prompt further investigation and potential adjustments to the safety program.

5. The selection of SPIs, SPTs, and alert levels prioritizes a balanced approach. This encompasses a combination of high-consequence and lower-consequence safety indicators, providing a comprehensive view of the program's effectiveness in mitigating risks across the spectrum.

3.8 MANAGEMENT OF CHANGE (MOC) (REPLACED ITEM 3.8)

1. The Company has designed an MOC system to help evaluate, authorize, implement, document, and communicate changes affecting the Company. These changes should be assessed for potential risks and hazards and how they may affect the department. This Instruction applies to all proposed changes to all Company assets including personnel, aircraft, facilities, and major workshop equipment where removal, disabling, by-passing, or modifying safety critical or shut down devices are necessary.

2. All changes, other than Replacement-in-Kind to Non-Critical Equipment, must be managed in accordance with this procedure. This includes, among others:

   a. Installation of new, or modification of existing, equipment.

   b. Changes in operating procedures (e.g. new aircraft checklist, aircraft tow procedure).

   c. Changes in equipment maintenance programs.

   d. Changes in spare parts requirements.

   e. Turnover of responsibilities during personnel replacement.

   f. Changes in organization structure (e.g Management change, new employee, employee job change, etc.).

   g. Re-assignment of responsibilities when position is eliminated or vacated indefinitely.

3. Do not make any change to an asset to which this instruction applies unless it fully complies with the requirements of this Instruction.

4. Any change must be submitted and manner acceptable to the President.

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5. ACCIDENT NOTIFICATION

5.1 SERIOUS INCIDENT/ACCIDENT REPORTING TO AUTHORITIES

GACAR 4.11, 4.15

To ensure compliance with GACAR 4 for reporting serious incidents involving Mukamalah Aviation aircraft, personnel, or property, the following procedure shall be followed:

1. Initial Notification: Upon identification of a serious incident, the crew shall immediately communicate preliminary information to the Operations Control Center (OCC) using the fastest available means. Technical staff shall follow the same procedure for reporting to the Maintenance Control Center (MCC).
2. Escalation to Senior Management: The OCC and MCC controllers shall promptly inform the Director of Safety & Quality about the occurrence via phone call.
3. Regulatory Notification: The Director of Safety & Quality will notify the Accident Investigation Board (AIB) and the GACA Principal Inspector as quickly as possible using the fastest available communication channels.
4. Documentation and Submission: Crew members involved in the incident shall file an Air Safety Report (ASR) as soon as possible through the Internal Quality Management System (IQSMS). Technical staff shall submit an Engineering Safety Report (ESR) using the same system.
5. GACA Reporting: The Director of Safety & Quality shall ensure the submission of a comprehensive report on the GACAR reporting system.
6. Mandatory reportable occurrences are defined in GACAR 4. These occurrences must be reported to the GACA through the dedicated reporting system within the stipulated timeframe.
7. Additionally, volcanic ash clouds and events concerning Performance-Based Navigation (PBN) operations require notification to the Safety Department.
8. Cockpit crew, technical staff, cabin crew, and ground staff involved in a mandatory reportable occurrence shall file respective reports within six hours of awareness through the IQSMS:
    a. Cockpit crew: Air Safety Report (ASR)
    b. Technical staff: Engineering Safety Report (ESR)
    c. Cabin crew: Cabin Safety Report (CSR)

5.1.1 Reporting to Authority

GACAR 4.13, 4.17

1. In accordance with the applicable regulations (AIB), all Serious Incidents/Accidents involving aircraft under the purview of Director of Safety & Quality shall be promptly reported to the Accident Investigation Bureau (AIB).

2. The report shall be submitted using the official AIB Accident/Incident Reporting Form, unless otherwise instructed by the AIB. In the event of specific instructions, adherence to the prescribed format is mandatory.

3. Mukamalah Aviation must report details of Serious Incidents/Accidents to the President within 48 hours of their discovery.

4. The report must encompass the following details, as mandated by Chapter 4.5 of the AIBR regulations:

   a. Aircraft Identification: Make, model, type, flight number (if any), nationality, and registration markings.

   b. Ownership and Operation: Registered owner and operator of the aircraft.

   c. Flight Crew: Name, qualifications, and pilot certificate number of the Pilot-in-Command.

   d. Time and Location: Date and time (local or UTC) of the incident, last point of departure, and intended landing point.

   e. Aircraft Position: Precise geographical position at the time of the event.

   f. Casualties: Total number of people onboard, categorized by fatalities, serious injuries, and minor injuries.

   g. Incident Type: Specific classification of the accident or incident.

   h. Weather Conditions: Prevailing weather conditions at the location of the incident.

   i. Aircraft Damage: Extent of damage sustained by the aircraft.

   j. Ground Damage: Any damage to ground objects or structures.

   k. Dangerous Materials: Description of any explosives, radioactive materials, or other dangerous articles aboard the aircraft.

5. Beyond notifying the AIB, Director of Safety & Quality is obligated to report the incident to GACA (General Authority of Civil Aviation) using their designated Accident and Incident Notification Form, or an equivalent format approved by GACA.

6. Completed forms and all required documents must be forwarded to GACA's Safety & Risk Management Department via email (sd@gaca.gov.sa). In situations requiring immediate notification, the minimum essential details should be submitted electronically even before finalizing the full report.

7. In the event of an accident or serious incident involving an aircraft transporting dangerous goods:

   a. Mukamalah Aviation notify the President.

   b. Within 48 hours of the incident, a detailed report must be submitted to the authorities.

5.2 REPORTING OF AIRCRAFT/ COMPONENT MAJOR DEFECTS

GACAR 4.21

1. Mukamalah Aviation must notify the President of all major defects as soon as practicable after their discovery.
2. The notification to the President must contain at least the following details:
   a. Name of the Company.
   b. Aircraft Type and Registration Mark.
   c. Date and Place of Occurrence.
   d. Details of the Defect(s) and Rectification Actions.
3. Mukamalah Aviation must report details of major defects to the President within 96 hours of their discovery.
4. The reporting of major defects must be submitted in a form and manner acceptable to the President. This may include, but is not limited to, a designated electronic reporting system, a standardized reporting form, or a detailed written report.

5.2.1 Defect reporting by Outsource AMO

1. When Mukamalah Aviation outsources aircraft maintenance activities to an approved aircraft maintenance organization (AMO), the responsibility for reporting major defects may be transferred to the AMO.
2. In such cases, both Mukamalah Aviation and the AMO must establish clear procedures for defect reporting within their respective maintenance control and procedure manuals. These procedures should outline the specific responsibilities of each party and ensure timely and accurate reporting of major defects to the President.

5.3 REPORTING OF MECHANICAL INTERRUPTIONS

GACAR 4.25

5.3.1 Individual Mechanical Interruption Reports

1. Mukamalah Aviation must submit a report for every mechanical interruption causing a delay of over 15 minutes, as per GACAR 121.1557 and 135.697.
2. Reports must be submitted to the President of the relevant regulatory body.
3. Reports should include the following details:
    a. Date and time of the interruption.
    b. Aircraft registration number and type
    c. Flight number (if applicable)
    d. Location of the interruption
    e. Description of the mechanical interruption
    f. Delay duration.
    g. Any corrective actions taken.
    h. Recommendations for future prevention

5.3.2 Consolidated Mechanical Interruption Reports

1. Mukamalah Aviation must submit a consolidated report summarizing all mechanical interruptions for the previous month, due on the first business day of the following month.
2. The report should include:
    a. Total number of mechanical interruptions during the month
    b. Distribution of interruptions by aircraft type and model
    c. Most frequent types of interruptions encountered.
    d. Trends and patterns observed.
    e. Any safety concerns identified.
    f. Proposed corrective actions.

5.3.3 Review and Recordkeeping

1. All individual and consolidated reports must be reviewed by appropriately qualified personnel to identify trends, safety concerns, and potential corrective actions.
2. Records of all reports, reviews, and corrective actions must be maintained for a minimum of two years.

5.4 REVIEW OF MECHANICAL INTERRUPTION REPORTS

GACAR 4.27

5.4.1 Unscheduled Commercial Operators

Periodic Review:

1. Mukamalah Aviation is permitted to conduct reviews of mechanical interruptions and defects periodically.
2. The frequency and scope of these reviews should be proportionate to the operator's size and type of operation.
3. Acceptable review frequency and procedures must be established and approved by the President.

5.4.2 Documentation and Recordkeeping

1. All reviews, including daily reviews for the Company should be documented with comprehensive records.
2. These records should capture key findings, discussions, identified safety concerns, and proposed corrective actions.
3. Records should be maintained two years to facilitate trend analysis and continuous improvement.

5.5 SERVICE DIFFICULTY REPORTING

GACAR 4.29

1. This document outlines the formal requirements for submitting Service Difficulty Reports (SDRs) by Mukamalah Aviation, as mandated by GACAR 121.1553 and 135.695, respectively.
2. Reports should be submitted electronically using the designated format and platform stipulated by the regulatory body.
3. Mukamalah Aviation may be required to submit supplementary information upon request from the President, such as detailed technical data, maintenance records, or crew reports.
4. The President may conduct investigations into specific service difficulties based on their severity, potential safety implications, or recurring nature.
5. Mukamalah Aviation are responsible for ensuring the accuracy, completeness, and timeliness of submitted SDRs.

5.5.1 Reporting Frequency and Timing

1. SDRs must be submitted promptly, generally within 48 hours of identifying a service difficulty.
2. In instances where immediate reporting is not feasible due to extenuating circumstances, a preliminary report should be submitted within the 48-hour timeframe, followed by a comprehensive report once additional information becomes available.

5.5.2 Report Content

Each SDR must encompass the following essential details:

1. Date and Time.
2. Aircraft Identification.
3. Flight Information.
4. Description of Service Difficulty.
5. Impact on Operations.
6. Corrective Actions.
7. Maintenance Actions.
8. Recommendations.

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6. ACCIDENT/INCIDENT INVESTIGATION PROCEDURE

GACAR 4.23

6.1 INVESTIGATION OF INCIDENTS

GACAR 4.19

1. Mukamalah Aviation is committed to the thorough investigation of all serious incidents involving our aircraft unless the Kingdom of Saudi Arabia Accident Investigation Bureau (KSA AIB) assumes responsibility for the investigation. Our primary objectives are to:
    a. Identify root causes: Through a comprehensive investigation process.
    b. Initiate timely remedial actions: Based on the identified root causes.
    c. Submit investigation report: Submitting a detailed report outlining the findings of the investigation to the President within the stipulated timeframe.
2. Mukamalah Aviation is committed to maintaining the highest safety standards, By establishing procedures for the investigation of serious incidents involving our aircraft. These procedures allow us to leverage the following options:
    a. Internal Resources: Using qualified personnel and expertise.
    b. Approved External Agency: With an external agency. However, any such agency must be pre-approved by the President to guarantee adherence to the highest investigation standards and alignment with GACAR regulations.
3. For all accidents and serious incidents involving dangerous goods, Mukamalah Aviation investigation board will be responsible for the investigation. The composition of this board will depend on where the incident occurred:
    a. Onboard: If the incident occurred onboard an aircraft, Mukamalah Aviation will be responsible for forming the investigation board.
4. On completing the investigation, Mukamalah Aviation must submit the investigation report to the President no later than 90 days after the incident.
5. Investigation reports must comply with the format and level of detail mandated by the President.

6.2 INVESTIGATION OF MAJOR DEFECTS

1. All major defects encountered must be thoroughly investigated by qualified mechanics employed by Mukamalah Aviation. This ensures a comprehensive and competent evaluation of the issue.

2. The President retains the discretion to involve a representative from the General Authority of Civil Aviation (GACA) in the investigation process. Additionally, the President may request the investigating organization to submit relevant materials such as components, worksheets, documents, or any other information deemed crucial for a comprehensive investigation. Our commitment to transparency and collaboration is paramount in ensuring the safety and efficiency of our operations.

3. In accordance with Section 4.19, all investigations into major defects must be finalized within 30 days of the incident date. This prioritized timeframe emphasizes the importance of conducting thorough and expedited investigations to identify root causes and implement timely corrective actions, minimizing potential safety risks.

4. Mukamalah Aviation submits a detailed investigation report to the President. The investigation report must contain at least the following information:

    a. Identification of parts/ systems involved; and

    b. Apparent or actual cause of the defect

    c. No of flight hours/landings/cycles since new and since the last inspection for life affected Component

    d. Corrective actions

    e. Disciplinary action taken against the staff if any

    f. Whether the investigation is closed or open, including the reasons for not closing the investigation.

5. Pursuant to an established finding of careless or willful negligence on the part of an individual, Mukamalah Aviation reserves the right to implement appropriate disciplinary measures in accordance with established company policies and applicable regulatory guidelines.

6. Mukamalah Aviation incorporates the totality of discovered defects, encompassing both minor and repetitive occurrences, into their statistical computations. This comprehensive approach ensures the accurate determination of component and system reliability indices, fostering a more robust understanding of their performance and potential vulnerabilities.

6.3 INTERNAL SAFETY ACCIDENT/INCIDENT INVESTIGATION

1. Internal safety investigations play a crucial role in preventing future accidents and incidents by uncovering systemic root causes rather than individual blame. Through thorough analysis and the sharing of learned lessons with relevant stakeholders, these investigations ultimately aim to enhance overall safety performance.

2. In essence, the key objectives of this investigation process are:

   a. Independent and Objective Investigations: Ensure investigations are conducted impartially and objectively, without assigning blame or liability.

   b. Clear Scope and Application: Define the specific situations where an internal safety investigation is necessary, providing clear guidelines for triggering investigations.

   c. Safety Improvement: Proactively identify potential hazards and systemic weaknesses within the safety system. Based on these findings, develop proactive recommendations and reactive corrective actions to prevent recurrences and continuously improve safety performance.

6.4 INVESTIGATION PROCEDURE

6.4.1 Decision to Investigate

1. This process determines whether a reported event merits further investigation. The decision hinges on the potential risk to human life and equipment damage, assessed by the designated safety reporting specialist. The specialist may, with Director of Safety & Quality approval, utilize the Event Risk Classification (ERC) process for categorization support. As outlined in the following section, the ERC framework guides the decision on whether a safety investigation is necessary.
2. Initiation Triggers:
    a. Safety reports submitted through Mukamalah Aviation's designated reporting systems necessitate investigation.
    b. Investigations mandated by GACA or the Accident Investigation Bureau (AIB) must be initiated.
    c. The Accountable Executive may direct the initiation of an investigation.

Note: Points 2 and 3 do not require ERC utilization.

6.4.2 Event Risk Classification

1. When the potential risk to life or equipment damage remains unclear, the designated safety specialist shall utilize the ERC as a guiding tool to determine whether an investigation is necessary. Ideally, the ERC assessment should occur within 12 hours of the reported event.
2. ERC Methodology:
    a. Event-Based Risk: The ERC focuses on the specific risk associated with the individual event, not historical data, or similar occurrences.
    b. Dynamic Nature: The ERC may be revised during the investigation as more information becomes available.
3. ERC Matrix:
    a. Structure: A 4x4 matrix where red events require investigation by GACA/AIB, yellow events necessitate investigation with Director of Safety & Quality approval, and green events indicate no investigation is needed
    b. Risk Estimation: Risk level is determined by the intersection of two key questions.

Question 2

What was the effectiveness of the remaining barriers between this event and the most credible accident scenario?

Effective	Limited	Minimal	Not effective
50	102	502	2500
10	21	101	500
2	4	20	100
1			

Question 1

If this event had escalated into an accident outcome, what would have been the most credible outcome?

		Typical accident scenarios
Catastrophic Accident	Loss of aircraft or multiple fatalities (3 or more)	Loss of control, mid air collision, uncontrollable fire on board, explosions, total structural failure of the aircraft, collision with terrain
Major Accident	1 or 2 fatalities, multiple serious injuries, major damage to the aircraft	High speed taxiway collision, major turbulence injuries
Minor Injuries or damage	Minor injuries, minor damage to aircraft	Pushback accident, minor weather damage
No accident outcome	No potential damage or injury could occur	Any event which could not escalate into an accident, even if it may have operational consequences (e.g. diversion, delay, individual sickness)

Question 1: Assessing Accident Potential

1. Holistic Evaluation: Consider all known factors, context, and environment to envision the event escalating into an accident.
2. Bottom Row: If an accident outcome seems highly improbable, proceed to the bottom row.
3. Credible Scenarios: If credible accident scenarios (even unlikely ones) exist, identify the most likely outcome, and select the corresponding row in the matrix. Utilize the listed "typical accident scenarios" for guidance.
4. Most Concerning Outcome: This question seeks the most concerning accident outcome associated with this type of incident, not the most probable or worst-case scenario.

Question 2: Evaluating Remaining Barriers

1. Safety Margin Assessment: Consider the effectiveness of remaining barriers that prevented the event from escalating into the identified accident outcome from Question 1.
2. Focus on Remaining Barriers: Ignore bypassed barriers and concentrate on what was left to prevent escalation.
3. Evaluation Options:
   a. Not Effective: Choose this if pure luck or exceptional skill, beyond normal requirements, prevented the accident.
   b. Minimal: Select this if some barriers remained, but their overall effectiveness was minimal.
   c. Limited: Choose this if barriers were in place but with limited effectiveness, indicating an abnormal situation demanding extra effort but still maintaining a safety margin.
   d. Effective: Select this if several robust barriers effectively prevented the event from escalating.
4. Limited Information: Acknowledge that the initial ERC may be based on limited information and subject to revision as more details emerge.

Note: This procedure originates from the ARMS methodology for Operational Risk Assessment in Aviation, developed by the ICAO ARMS Working Group (2007-2010).

6.5 LEAD INVESTIGATOR ROLE AND DUTIES

6.5.1 Evidence Collection in Safety Investigations

1. Safety investigations rely heavily on collected evidence. For inquiries pertaining to accidents, incidents, or safety, security, and environmental violations, prior approval from the Director of Safety & Quality is mandatory. Consequently, supervisory staff within the relevant department are responsible for gathering and presenting pertinent evidence to the lead investigator. While specific evidence needs vary based on the incident, the following serves as a general guide:

    a. Witness Statements and Interviews:

        i. Obtain statements and conduct interviews with relevant personnel.

        ii. Ensure witness availability by coordinating with line managers and relieving them of duties, when necessary.

        iii. Briefly explain the investigation process and answer witness inquiries.

        iv. Protect interviewees by maintaining a non-punitive environment and upholding the objectivity of the Safety Management System (SMS).

        v. The Director of Safety & Quality reserves the right to invite or exclude observers, including related postholders, from interviews.

    b. Physical Evidence:

        i. Conduct site inspections and take photographs.

        ii. Gather, record, and preserve physical evidence.

        iii. Prioritize "perishable" evidence prone to loss or alteration, such as Flight Data Recorder (FDR), Cockpit Voice Recorder (CVR), and CCTV recordings.

    c. Documentation and Records:

        i. Collect licenses, medical certifications, training records, flight documents (flight plan, load sheets, meteorological reports), technical documents (Engineering Logbook entries, work orders, Airworthiness Directives), manuals, and bulletins.

        ii. Obtain FDR and CVR recordings, if applicable.

    d. Additional Information:

        i. Identify any missing information and request it from department heads, related postholders, or the Director of Safety & Quality.

        ii. Conduct comprehensive assessments to ensure all relevant evidence is collected and no sources are overlooked.

    e. Evidence Storage and Access:

        i. Implement a proper storage and documentation system for easy retrieval of evidence.

        ii. Limit access to the Director of Safety & Quality Investigation Team.

6.5.2 Establishing Factual Information

1. Aligned with ICAO Doc 9756, a fact is verifiable information derived from observation. This activity aims to directly confirm the accuracy of collected evidence and build the factual foundation of the subsequent investigation report.
2. Describe all events and circumstances directly related to the incident.
3. Present a chronological timeline or sequence of events (when applicable), outlining the flight and key events as they occurred.
4. Timeline Construction:
    a. Include significant precursor events.
    b. Use local time or UTC when the flight crossed time zones.
    c. Ensure clarity and comprehensibility despite the event's complexity.
    d. Maintain professionalism and accuracy in all diagrams.
    e. Verify all events directly by the lead investigator and team.
    f. Cite evidence used to reconstruct the timeline, including witness statements, CVR/DFDR transcripts, physical evidence, and CCTV recordings.

6.5.3 Analysis and Conclusion Based on Factual Information

1. The analysis section of the investigation aims to establish the significance of relevant facts and circumstances presented in the factual information. Its primary objective is to identify the events that contributed to the incident and establish a clear logical link between factual observations and the resulting conclusions. However, maintaining investigator objectivity remains paramount throughout this process.
2. Investigation Analysis Traps:
    a. Outcome Bias: Harshly judging actions/inactions based on knowledge of the adverse outcome, ignoring the context at the time.
    b. Counterfactual Reasoning: Discussing what could have been done differently instead of analyzing actual actions and their motivations.
    c. Cherry-picking: Selectively focusing on hindsight-based explanations to support a predetermined conclusion.
3. Maintaining Objectivity and Integrity:
    a. Utilize an Analysis Method/Model: Employ a structured approach (when possible) to minimize bias. Briefly describe the chosen method in the final report.
    b. Address Human and System Factors: Analyze both human contributions and systemic flaws, including effective and ineffective preventive/recovery controls.
    c. Local Rationality Principle (LRP): Consider people's actions within the context of their situation, knowledge, and available resources.

d. Logical Hypothesis Formulation and Testing: Develop hypotheses based on analysis and test them against gathered evidence.

e. Clear Differentiation of Evidence and Opinion: Clearly distinguish between factual evidence and unsupported opinions. Cite evidence supporting each hypothesis.

f. Blame-Neutral Language: Avoid accusatory language while openly discussing potential causal factors, even if they suggest liability.

g. Transparency with Contradictory Evidence: Address and explain any conflicting evidence openly and effectively.

6.5.4 Review of Findings and Recommendations

1. Prior to finalizing the investigation report, the lead investigator must carefully review the conclusions drawn from the analysis. This includes scrutinizing established findings, root causes, and contributing factors.
2. Factual statements summarizing significant conditions, events, or circumstances within the incident sequence.
3. These elements represent crucial steps in the incident, but not necessarily direct causes or indications of deficiencies.
4. Causes:
   a. Events, individually or combined, that demonstrably led to the incident.
   b. Both findings and causes must be directly supported by and linked to the established factual information and analysis.
   c. No new information should be introduced within the findings section.
   d. Findings should be presented in a logical, typically chronological order.

6.6 INVESTIGATION REQUIREMENTS

6.6.1 Director of Safety & Quality REVIEW

1. Upon completion of the investigation, the lead investigator shall compile a comprehensive final report encompassing the gathered information, conducted analysis, and derived conclusions. This report will be submitted to the Director of Safety & Quality for review and approval.
2. Should the Director of Safety & Quality disagree with any presented findings, the lead investigator will be required to revisit the investigation. This may involve reviewing and, if necessary, collecting additional evidence to support or revise the contested findings. Following any necessary adjustments, the revised report will be resubmitted to the Director of Safety & Quality for final approval.

6.6.2 DRAFT REPORT REVIEW AND FEEDBACK

1. Following the review of the investigation findings, the draft report will be disseminated to relevant divisions and departments for their informed feedback. All feedback must be provided in writing within five business days. It is strictly prohibited for any division, department, or individual to share, release, or grant access to the draft report without explicit authorization from the Director of Safety & Quality.
2. Upon receiving feedback within the stipulated timeframe, the lead investigator will reassess the evidence, considering both comments that support and contradict the findings. This may involve revising the draft report to incorporate valid feedback or, alternatively, appending dissenting comments to the final report for Director of Safety & Quality review and approval.

6.6.3 PUBLICATION OF FINAL INVESTIGATION REPORT

1. This section outlines the finalization and dissemination of the investigation report. Completion requires adhering to the following steps:
    a. Signature Procurement: Secure necessary signatures on the report as per organizational guidelines.
    b. Stakeholder Distribution: Distribute the finalized report to all designated stakeholders within the organization.
    c. IQSMS Publication: Publish the final report on the Internal Quality Management System (IQSMS) for wider access and record-keeping purposes.

6.6.4 FINAL INVESTIGATION REPORT APPROVAL

Following the completion of the draft report review and incorporation of necessary revisions, the final report will be signed by the Lead Investigator and all members of the designated investigation team. This finalized report will then be submitted to the Director of Safety & Quality for approval within five business days.

6.6.5 Final Investigation Report Distribution

1. Following Director of Safety & Quality approval, the Lead Investigator will distribute the final investigation report via designated channels. This ensures timely communication and transparency with key stakeholders.
2. Distribution Channels:
    a. Internal: Electronic: Distribution via email (minimum) to the Accountable Executive (AE), relevant postholders, and heads of involved divisions/departments.
    b. External: Regulatory Authorities: If the investigation was mandated by GACA or AIB, the Director of Safety & Quality will share the final report with them through their preferred communication channels.

6.6.6 Termination of Safety Investigation

1. According to the directive of the Director of Safety & Quality, a safety investigation will be discontinued if GACA or AIB assumes control. In such cases, all evidence and analysis will be preserved and presented to the competent authority leading the investigation. Mukamalah Aviation's role will be limited to witness participation and assistance as requested by the authority.
2. An internal decision to terminate the investigation may occur under the following circumstances:
    a. Limited Safety Benefit: If, during factual information analysis, the lead investigator determines the investigation is unlikely to yield significant safety improvements, they may propose discontinuation with Director of Safety & Quality approval.
    b. Sabotage/Criminal Activity: If early indications suggest sabotage or criminal activity, the investigation will be discontinued, as the causal factors fall outside this procedure's scope.

6.6.7 Safety Recommendation Follow-Up

This section outlines the process for implementing safety recommendations identified during investigations, focusing on the roles and responsibilities of the Safety Specialist and Action Owner. Each step is described along with its core requirements for successful completion. Additionally, the Internal Quality Management System (IQSMS) and Safety Action Group (SAG) will be utilized to track and monitor the progress of these recommendations.

6.6.8 Safety Recommendation Closure

1. The Safety Specialist is responsible for tracking and monitoring all safety recommendations until their closure. This includes collaborating with Action Owners and briefing the safety office on the finalization of investigation recommendations.
2. The IQSMS investigation module offers the following features to facilitate both Safety Specialists and Action Owners:
    a. Automated Notifications: Action Owners receive automated email notifications from the IQSMS detailing assigned recommendations and due dates.
    b. Completion Alerts: The Safety Specialist receives automatic notifications upon investigation completion and when Action Owners submit evidence of recommendation implementation.

c. Once a recommendation is demonstrably implemented and verified, the Safety Specialist can finalize the original safety report within the IQSMS reporting module.

6.6.9 Investigation Team Composition

1. Based on the nature and complexity of the occurrence, the Director of Safety & Quality or their deputy will approve the composition of the investigation team. The team may typically include the following specialists:

   a. Flight Safety Specialist: Possesses expertise in flight operations and procedures.

   b. Cabin Safety Specialist: Holds specialization in cabin safety protocols and procedures.

   c. Technical Safety Specialist: Offers technical expertise specific to aircraft systems and components.

   d. Ground Safety Specialist: Possesses knowledge and experience in ground handling and maintenance activities.

   e. Part-Time Safety Investigator: Provides additional investigative support and expertise.

2. Additionally, subject-matter experts or personnel from operational departments may be co-opted into the team to assist with the investigation based on their specific knowledge and experience relevant to the event.

6.7 REPORT INVESTIGATION

6.7.1 Report Investigation Format

1. Based on ICAO Annex 13, the investigation report will follow this structure:
2. Factual Information:
3. History of Flight: Briefly describe:
    a. Flight details (number, type, departure/arrival points, times).
    b. Flight preparation, events leading to the incident, and flight path reconstruction (if applicable).
    c. Accident location (coordinates, time, day/night).
4. Injuries: Report casualties:
    a. Crew, passengers, others (fatal, serious, minor, none).
    b. Note: Definitions for fatal and serious injuries are provided in ICAO Annex 13.
    c. Aircraft Damage: Briefly state the extent of damage (destroyed, substantial, minor, none).
    d. Other Damage: Briefly describe damage to objects other than the aircraft.
5. Personnel Information: Provide relevant details for:
    a. Flight crew (age, licenses, experience, duty time).
    b. Other crew members (qualifications, experience).
    c. Other relevant personnel (air traffic services, maintenance, etc.).
6. Aircraft Information: Briefly address:
    a. Airworthiness and maintenance (pre-flight and in-flight deficiencies).
    b. Performance (relevant to the incident) and weight/balance compliance.
    c. Fuel type used.
7. Meteorological Information: Briefly state:
    a. Forecast and actual weather conditions relevant to the incident.
    b. Availability of weather information to the crew.
    c. Natural light conditions at the time of the accident.
    d. Aids to Navigation: Report on relevant navigation aids (ILS, MLS, NDB, PAR, VOR, etc.):
    e. Availability and effectiveness at the time of the incident.
8. Communications: Report on aeronautical mobile and fixed service communications:
    a. Availability and effectiveness at the time of the incident.
    b. Aerodrome Information: Provide pertinent details about the aerodrome, facilities, and conditions:

c. Relevant to the takeoff or landing area if not an aerodrome.

9. Flight Recorders: Report on:
   a. Location and condition of flight recorders upon recovery.
   b. Available pertinent data.
10. Wreckage and Impact Information: Describe:
   a. Accident site and wreckage distribution pattern.
   b. Material failures or component malfunctions detected.
   c. Location and state of wreckage pieces (only if needed to indicate pre-impact breakup).
   d. Diagrams, Charts, and Photographs: Include these in the section or appendices.
11. Medical and Pathological Information: Briefly describe:
   a. Investigation results and available pertinent data.
   b. Note: Flight crew license-related medical information goes under Personnel Information.
12. Fire: If applicable, detail:
   a. Nature of the fire occurrence.
   b. Fire-fighting equipment used and its effectiveness.
13. Survival Aspects: Briefly describe:
   a. Search, evaluation, and rescue efforts.
   b. Crew and passenger locations related to injuries sustained.
   c. Failures of structures like seats and seat-belts.
14. Tests and Research: Briefly state the results of:
   a. Tests and research conducted.
15. Organizational and Management Information: Provide relevant details on:
   a. Organizations and management influencing aircraft operation.
   b. Examples: operator, air traffic services, agencies, regulatory authority.
   c. Information could include organizational structure, functions, resources, economic status, policies, practices, and regulatory framework.
16. Additional Information: Include relevant information not covered in sections 1-17.
17. Analysis and Conclusion:
   a. The CSSE division will analyze only documented factual information relevant to determining conclusions and causes.
   b. Based on findings and analysis, the CSSE division will ensure the conclusion includes both immediate and deeper systematic causes.
18. Recommendations:

a. The CSSE division will briefly state safety recommendations for accident/incident/event prevention and any corrective actions.

b. Useful investigation techniques used and the reason for using them will be briefly explained.

c. Any other pertinent information needed for understanding the report will be included in the appendices.

19. Results of Investigation:

20. The CSSE division will ensure:

a. Investigation results are used to identify preventative measures for similar incidents.

b. Incident/accident investigations are fact-finding and avoid assigning blame.

c. Investigation results will not be used to determine individual rights or liabilities.

6.8 STATE INVESTIGATION

6.8.1 Participation in AIB Investigations

1. Only authorized representatives are allowed to participate in AIB investigations:
    a. Mukamalah Aviation representatives
    b. Government agencies involved
    c. Organizations whose employees, functions, activities, or products were relevant to the incident and can offer qualified technical assistance.
2. Media, claimants, insurers, and their lawyers are prohibited from participating or observing.

6.8.2 Foreign State Investigations

1. Following Annex 13 of the ICAO Convention, the investigating authority is determined by the location of the incident:
2. State of Occurrence: Conducts the investigation and appoints the Investigator-in-Charge (IIC).
3. State of Registry (KSA): Has the right to send an accredited representative (GACA/AIB) with advisors (operator, manufacturer).
4. State of Registry Responsibilities: Provide information on aircraft, crew, and flight details.
5. State of Registry Representative Rights:
    a. Visit the scene.
    b. Examine wreckage.
    c. Question witnesses.
    d. Access relevant evidence.
    e. Receive copies of documents.
    f. Make submissions.
    g. Receive the final report.
6. State of Registry Limitations: No participation in analysis or cause determination.

6.8.3 Kingdom of Saudi Arabia Investigations

1. GACA/AIB conducts investigations within the Kingdom.
2. Director of Safety & Quality or their deputy collaborates with GACA/AIB to determine Mukamalah Aviation's assistance level.
3. Mukamalah Aviation can provide technical expertise to GACA/AIB as requested.

6.9 FLIGHT RECORDER HANDLING DURING INVESTIGATIONS

1. During AIB investigations, only AIB personnel are authorized to retrieve flight recorders from involved aircraft. Mukamalah Aviation staff must not attempt retrieval under these circumstances.
2. Upon a request from the investigating authority in a foreign state where a Mukamalah Aviation aircraft is involved in an accident or serious incident, the AIB may:
    a. Provide flight recorder data;
    b. If necessary, hand over the physical flight recorders.
3. AIB personnel are solely responsible for recorder recovery, handling, and data extraction. However, AIB may request assistance from qualified Mukamalah Aviation staff for DFDR and CVR retrieval when deemed necessary.

6.9.1 Flight Recorder Data

6.9.1.1 Flight Data Recorder (FDR) Equipment:

1. All Mukamalah Aviation aircraft are equipped with FDRs, capable of retaining flight data for at least the past 25 hours.
2. During routine testing and maintenance, up to one hour of the oldest data may be overwritten.

6.9.1.2 Data Retrieval and Storage:

1. The Technical Department maintains documentation on retrieval and conversion of stored FDR data.
2. Following mandatory reporting incidents or as directed by authorities, original recorded data is preserved for 60 days (or longer upon request).
3. Securing and guarded storage of FDRs is the responsibility of the Technical Department.

6.9.1.3 Data Usage Restrictions:

1. FDR recordings are strictly for investigating mandatory reporting incidents, except in approved circumstances:
    a. Internal Usage: Exclusively for air navigation or maintenance purposes by the company.
    b. Anonymized Usage: With identification details removed for broader applications.
    c. Authorized Disclosure: Following established safety procedures when necessary.

6.9.2 Flight Recorder Data Usage After Mandatory Reporting Incidents

6.9.2.1 Cockpit Voice Recorder (CVR) Recordings:

CVR recordings are strictly limited to investigating mandatory reporting incidents, except with the explicit consent of all involved crew members.

6.9.2.2 Flight Data Recorder (FDR) Recordings:

1. FDR recordings can be used in broader contexts beyond mandatory reporting investigations, provided they adhere to one of the following criteria:
    a. Airworthiness or Maintenance: Used exclusively by the company for these internal purposes.
    b. De-identified: All identifiable information is removed before usage.
    c. Secure Disclosure: Following established safety procedures when necessary.

6.9.3 Cockpit Voice Recorder (CVR) Data

6.9.3.1 Equipment:

All Mukamalah Aviation aircraft are equipped with CVRs, recording cockpit audio for at least the past 25 hours.

6.9.3.2 Retrieval Procedures:

Following an accident/serious incident:

1. If requested by authorities or by Mukamalah Aviation procedures, the crew pulls the CVR.
2. With Director of Safety & Quality approval, the Technical Department retrieves and securely stores the CVR.

6.9.3.3 Data Usage Restrictions:

CVR recordings are strictly for investigating mandatory reporting incidents, except with:

1. Director of Safety & Quality Approval and Crew Consent: In rare circumstances, with the explicit consent of all involved crew members and Director of Safety & Quality authorization.

6.9.3.4 Data Preservation:

1. Mukamalah Aviation prohibits manual CVR data erasure during/after a mandatory reporting incident.
2. If the CVR is disabled/switched off, an ASR report is mandatory.
3. A technical logbook entry marked "INCIDENT" ensures:
    a. Maintenance pulls/clips the CVR circuit breaker (C/B) as soon as possible.
    b. The CVR is removed from the aircraft upon arrival.
4. In case of a power outage after a mandatory reporting incident, maintenance pulls/clips the CVR C/B before power restoration to prevent accidental erasure.

6.9.3.5 Data Retention:

Mukamalah Aviation preserves original CVR data from mandatory reporting incidents for 60 days (or longer upon request from investigating authorities).

6.10 MONITORING AND CONTROLLING CORRECTIVE ACTIONS

6.10.1 Oversight and Responsibility:

1. The Director of Safety & Quality is responsible for overseeing the completion of all corrective actions and recommendations arising from investigations.
2. Divisional/departmental heads are directly responsible for implementing these actions and recommendations within their respective areas.

6.10.2 Centralized Tracking:

Mukamalah Aviation utilizes a central location within the CSSE division's shared folder to store all investigation-related recommendations.

Upon completion of an investigation, the safety staff meticulously records key information in a dedicated database. This includes:

1. A concise event description encompassing date, location, aircraft registry, and flight number (when applicable).
2. A consolidated list of recommendations paired with corresponding corrective actions undertaken by the relevant division/department.
3. A formal communication mechanism for divisions/departments to express non-concurrence with any recommendation, outlining the rationale behind their disagreement.

6.10.3 Timely Implementation:

1. Concerned divisions/departments are obligated to implement corrective actions based on recommendations as soon as possible and within established timeframes.
2. The Safety Specialist plays a crucial role in logging the investigation report within the IQSMS system, along with the findings, associated causes, and any recommendations.

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7. SAFETY OCCURRENCES

7.1 REPORTABLE OCCURRENCES

GACAR 4.35

Reportable safety occurrences are events, big or small, that could impact the safety of flying. This includes anything from minor technical issues or rule-breaking to serious near misses and accidents. Reporting these occurrences isn't just required by regulations, it's also a crucial way to proactively find potential hazards, prevent future incidents, and create a company culture that prioritizes safety.

7.2 AIRCRAFT MAINTENANCE OCCURRENCES

GACAR Part 4 Appendix C

Certificate holders must report any other aircraft maintenance-related incidents and not listed in Appendix C.

7.2.1 Manufacturing

Products, parts, or appliances released from the production organization with deviations from applicable design data lead to an unsafe condition potentially as identified with the holder of the type certificate or design approval.

7.2.2 Design

Any failure, malfunction, defect related to a product, part, or appliance which has resulted in or may result in an unsafe condition.

Note: This list is applicable to occurrences occurring on a product, part, or appliance covered by the type certificate, restricted type-certificate, supplemental type-certificate, KSATSO authorization, major repair design approval, or any other relevant approval

7.2.3 Maintenance and Continuing Airworthiness Management

1. Serious structural damage (for example, cracks, permanent deformation, delamination, debonding, burning, excessive wear, or corrosion) was found during maintenance of the aircraft or component.
2. Serious leakage or contamination of fluids (for example, hydraulic, fuel, oil, gas, or other fluids).
3. Failure or malfunction in an engine or powerplant or transmission parts resulting in any one or more of the following:
    a. non-containment of components/debris.
    b. failure of the engine mount structure.
4. Damage, failure, or defect in the propeller leads to in-flight separation of the propeller or any major portion of the propeller or malfunctions of the propeller control.
5. Damage, failure, or defect of main rotor gearbox/attachment, which could lead to in-flight separation of the rotor assembly or malfunctions of the rotor control.
6. Significant malfunction of a safety-critical system or equipment, including emergency system or equipment during maintenance testing or failure to activate these systems after maintenance.
7. Incorrect assembly or installation of aircraft components found during an inspection or test procedure not intended for that specific purpose.
8. Wrong assessment of a serious defect or serious non-compliance with MEL and Technical logbook procedures.
9. Serious damage to Electrical Wiring Interconnection System (EWIS).
10. Any defect in a life-controlled critical part causing retirement before completion of its full life.

11. The use of products, components, or materials, from the unknown, suspect origin, or unserviceable critical components.

12. Misleading, incorrect, or insufficient applicable maintenance data or procedures could lead to significant maintenance errors, including language issues.

13. Incorrect control or application of aircraft maintenance limitations or scheduled maintenance.

14. Releasing an aircraft to service with defect or non-compliance after maintenance, which could endanger flight safety.

15. Serious damage caused to an aircraft during maintenance activities due to incorrect maintenance or use of inappropriate or unserviceable ground support equipment that requires additional maintenance actions.

16. Identified burning, melting, smoke, arcing, overheating, or fire occurrences.

17. Any occurrence where the human performance, including personnel fatigue, has directly contributed to or could have contributed to an accident or a serious incident.

18. Significant malfunction, reliability issue, or recurrent recording quality issue affecting a flight recorder system (such as a flight data recorder system, a data link recording system, or a cockpit voice recorder system) or lack of information needed to ensure the serviceability of a flight recorder system.

7.3 MANDATORY OCCURRENCE REPORTING (MOR)

7.3.1 Serious Incidents / Accidents

GACAR Part 4 Appendix A

1. In accordance with regulatory requirements, certain occurrences must be reported to the Accident Investigation Bureau (AIB) and/or the General Civil Aviation Authority (GACA).
2. When in doubt about an occurrence or potential safety hazard falling under the purview of Mandatory Occurrence Reporting (MOR), err on the side of caution and file a report. The Vice President of Corporate Safety, Security, and Environment will then determine whether the report qualifies as an MOR or necessitates an internal investigation.
3. The following non-exhaustive list details occurrences requiring MOR submissions:
    a. Near collisions: Situations requiring evasive maneuvers to avoid a collision, near miss, or situations where an avoidance maneuver would have been appropriate.
    b. Collisions (non-accident): Collisions not classified as accidents.
    c. Controlled flight into terrain (CFIT) near misses: Situations where a controlled flight into terrain was narrowly avoided.
    d. Aborted takeoffs on restricted runways: Aborted takeoffs on closed, engaged, or unassigned runways, taxiways, or other unauthorized areas.
    e. Unauthorized takeoffs: Takeoffs from closed, engaged, or unassigned runways, taxiways, or other unauthorized areas.
    f. Unauthorized landings: Landings or attempted landings on closed, engaged, or unassigned runways, taxiways, or other unauthorized areas.
    g. Gross performance failures during takeoff or initial climb: Significant deviations from predicted performance during takeoff or initial climb.
    h. Aircraft fires or smoke: Fires or smoke events within the cockpit, passenger cabin, cargo compartments, or involving engines.
    i. Emergency oxygen usage by flight crew: Instances where the flight crew requires emergency use of oxygen.
    j. Aircraft structure or engine failures (non-accident): Failures of aircraft structure, engine malfunctions, or uncontained turbine engine failures not classified as accidents.
    k. Multiple system malfunctions impacting operation: Malfunctions of multiple aircraft systems significantly affect aircraft operation.
    l. Flight crew incapacitation in flight: In-flight incapacitation of a flight crew member.
    m. Fuel emergencies: Fuel quantity or distribution situations requiring a pilot to declare an emergency, including insufficient fuel, fuel exhaustion, fuel starvation, or inability to utilize all usable fuel onboard.
    n. Runway incursions (Severity A): Runway incursions classified as Severity A as outlined in the ICAO Manual on the Prevention of Runway Incursions (Doc 9870).

o. Takeoff and landing incidents: Incidents such as undershoots, overruns, or runway excursions.

p. Difficulties controlling the aircraft: Occurrences caused by system failures, weather phenomena, operations outside authorized flight envelopes, or other factors that compromised or potentially compromised aircraft control.

q. Redundancy system failures: Failures exceeding a single system within a mandatory flight guidance and navigation redundancy system.

7.3.2 Majority of Mandatory Reportable Occurrences

A. The list below includes the majority of mandatory reportable occurrences. However, it is not exhaustive. Therefore, always file a safety report if safety is affected, even if the event is not listed here.

1. Risk of inflight collision with another airplane, terrain, or other object, or an unsafe situation where avoidance action was required.
2. Cracks, permanent deformation, or corrosion of aircraft structure, if more than the maximum acceptable to the manufacturer limits.
3. Aircraft components or systems failure results in emergency actions during flight (except action to shut down an engine).
4. Significant handling difficulties experience due to a system failure or malfunction.
5. Damage inflicted to the airplane or other property or persons during ground movement.
6. Any indication or suspected presence of fire, explosion, smoke, toxic or noxious, contaminated air, fumes, or if any smoke detectors are activated.
7. Emergency (Mayday or Pan) declared.
8. An event leading to an emergency evacuation.
9. Defective or inadequate safety equipment or procedures, including all emergency exits and emergency lights.
10. The use of any non-standard procedure by the flight or cabin crew to deal with an emergency.
11. Event requiring the emergency use of oxygen by the flight crew.
12. Depressurization.
13. Loss of control (including partial or temporary) regardless of the cause.
14. Occurrences close to or above V1 resulting from or producing a hazardous, or potentially hazardous situation (e.g. tail strike, engine power loss, etc.).
15. Rejected takeoff executed after takeoff power is established.
16. Loss of position awareness relative to actual position or to other aircraft.
17. Breakdown in communication between flight crew (CRM) or between flight crew and other parties (e.g. cabin crew, ATC, engineering).
18. Runway or taxiway incursion.

19. Aircraft unintentionally departing from a paved surface.
20. Takeoff or landing incidents; incidents such as undershooting, overrunning, or departing the runway, or minimum obstacle separation being compromised; Landing or attempted landing on a closed or occupied runway.
21. Interruption to a flight Exceedance of the limiting parameters for the aircraft configuration or significant unintentional speed changes (e.g. VMO/MMO, flaps, etc.).
22. Interruption to a flight, unscheduled change of aircraft en route, or unscheduled stop or diversion from a route, caused by known or suspected mechanical difficulties or malfunctions
23. Exceedance of performance limitations, or if the aircraft fails to meet predicted performance.
24. Loss of braking system effectiveness action.
25. Airprox or TCAS RA event.
26. Wake turbulence encounter.
27. EGPWS/GPWS alert and/or warning occurs.
28. Significant turbulence, wind shear, or other severe weather encounter.
29. Lightning or hail strike that causes damage to the aircraft and/or loss or failure of any of its essential systems.
30. Foreign object damage to the aircraft and/or loss or failure of any of its essential systems.
31. Icing encounter resulting in handling difficulties, damage to the aircraft, or loss or malfunction of any essential service.
32. Bird hazard; Bird strike damage to the aircraft and/or loss or failure of any of its essential systems.
33. ATC incident (e.g. faulty ATC procedures, lack of compliance with applicable procedures by ATC or by the flight crew; failure of ATC services facilities).
34. Crew or passenger becomes seriously ill, are injured, or become incapacitated.
35. Sabotaged or vandalism of any part of the aircraft or its equipment.
36. Security procedures breached.
37. Unlawful interference with the aircraft including a bomb threat or hijack.
38. Inability to achieve the intended aircraft configuration for any phase of flight (e.g. landing gear and or gear doors, flaps, stabilizers, slats, etc.).
39. Brake system components that result in loss of brake actuating force when the aircraft is in motion on the ground; aircraft structure that requires significant repair.
40. Any damage, failure, or loss of a structural element that could jeopardize the operation.
41. Asymmetry of flight controls (e.g. flaps, slats, spoilers, etc.).
42. Stability and flight control problems.
43. Hard landing, requiring a hard landing special inspection.
44. Blowout or structural failure of the tires or landing gear.

45. Leak of hydraulic fluids, fuel, oil, or other fluids which may produce a fire or the possibility of dangerous contamination of the aircraft structure, its systems, equipment, or present a danger for the passengers.
46. The fuel or fuel dumping system affects fuel flow or causes hazardous leakage during flight.
47. Landing with reserve fuel or less remaining.
48. Exceedance of fuel imbalance limits.
49. Significant spillage during fueling operations.
50. Loading of contaminated or incorrect type or quantity of fuel or other essential fluids (including oxygen and potable water).
51. Failure or deficiency of the fuel system with significant consequences in the feeding and/or distribution of fuel.
52. Experience of engine parameters.
53. Engine flameout, shutdown, and failure or malfunction of any part, inflight or on the ground (e.g. un-commanded thrust/power loss, inability to shut down or restart).
54. Engine shut down during the flight due to foreign object ingestion or icing.
55. Engine exhaust system causes damage during flight to the engine, adjacent structure, equipment, or components.
56. Abnormal vibration of the aircraft felt by the crew.
57. Failure or deficient performance of one or more aircraft systems can seriously affect the operation and can result in the use of abnormal procedures.
58. Failures of more than one system in a redundancy system mandatory for flight control, guidance, and navigation.
59. Go-around due to, or producing, a dangerous or possibly dangerous situation.
60. Significant non-intentional deviation of speed or altitude (±300 feet), regardless of the cause.
61. Navigation error involving a significant deviation from track, regardless of the cause.
62. Decent below minimums on an instrument approach without the required visual reference.
63. Alert of a primary warning system associated with an aircraft maneuver (e.g. configuration of warning, stall warning, overspeed warning, etc.).
64. Failure or deficiency of a warning system when this failure gives wrong information to the crew.
65. Incorrect input of an SSR Code or of an altimeter subscale (altimeter correction).
66. Program incorrect or incorrect input of data into the aircraft navigation/performance equipment, including errors in the database, which could lead to a dangerous or possibly dangerous situation.
67. Loss of communication.
68. Interference with the onboard communication/navigation systems by Personal Electronic Device.
69. Repetition of particular types of occurrences, which do not require mandatory communication when they occur in isolation, but due to their frequency, they may constitute a possible hazard.

70. Significant contamination of the aircraft structure, systems, or equipment, resulting from the transportation of cargo or baggage.

71. Loss of control of the crew seat adjustment mechanism.

72. Failure in the CVR and FDR devices.

73. Incorrect loading of passengers or baggage, likely to have a significant effect on the aircraft mass and/or balance.

74. Incorrect storage of baggage (including hand baggage) is likely in any way to endanger the aircraft, its equipment, or occupants, or to impede emergency evacuation.

75. Failure or malfunction of any system or component which may endanger the aircraft or its passengers and crew, on board of the aircraft or on the ground.

76. A hazard or potential hazard which arises as a consequence of any deliberate simulation of failure conditions for system checks or training purposes.

77. Deficiencies identified in operating procedures, manuals, or navigational charts.

78. Carriage of undeclared or incorrectly declared dangerous goods.

79. Any type of occurrence related with the transportation of dangerous goods (declared, undeclared, or incorrectly declared), which jeopardizes or could jeopardize the aircraft or its occupants.

80. Any Human Factors issues that have an effect on the safe operation of the flight.

81. Any occurrence that may be attributed wholly or partially to fatigue.

82. Any situation where the flight or cabin crew feels unfit to fly due to fatigue level.

83. When the stabilization criteria are not met on the approach.

84. Suspected laser beam exposure.

85. Aircraft condition identified following the release from a Maintenance Service Center, which can impair the safe operation of the flight.

86. Missing, incorrect, or inadequate De-icing/Anti-icing treatment.

87. Actual or potential taxiway or runway incursion.

88. Final Approach and Take-off Area (FATO) incursion.

89. Actual or attempted take-off, approach, or landing with the incorrect configuration setting.

90. Tail, blade/wingtip, or nacelle strike during take-off or landing.

91. Approach continued against air operator stabilized approach criteria.

92. Precautionary or forced landing.

93. Short and long landing.

94. Aircraft upset, exceeding normal pitch attitude, bank angle, or airspeed inappropriate for the conditions.

95. Level bust.

96. Unintentional deviation from the intended or assigned track of the lowest of twice the required navigation performance or ten nautical miles.

97. Jet blast or rotor and prop wash occurrences that have or could have endangered the aircraft, its occupants, or any other person.

98. Misinterpretation of automation mode or any flight deck information provided to the flight crew that has or could have endangered the aircraft, its occupants, or any other person.

99. Unintentional release of cargo or other externally carried equipment.

100. Loss of situational awareness (environmental, mode, and system awareness, spatial disorientation, and time horizon).

101. Malfunction or defect of any indication system results in misleading indications to the crew.

102. Abnormal functioning of flight controls such as asymmetric or stuck/jammed flight controls (for example: lift (flaps/slats), drag (spoilers), attitude control (ailerons, elevators, rudder) devices).

103. Significant malfunction of any part contributes to the failure of the propeller or powerplant.

104. Damage to or failure of main/tail rotor transmission or equivalent systems.

105. Engine operating limitation exceedance, including Overspeed or inability to control the speed of any high-speed rotating component (for example, APU, air starter, air cycle machine,).

106. Failure or malfunction of any part of an engine, powerplant, APU, or transmission resulting in any one or more of the following:

    a. Thrust-reversing system failing to operate as commanded;

    b. Inability to control power, thrust, or rpm (revolutions per minute);

    c. Non-containment of components/debris.

107. Incapacitation of any cockpit crew or cabin crew results in the reduction below the minimum certified crew complement.

108. Unexpected encounter of poor runway surface conditions.

109. Interference with the aircraft by firearms, fireworks, flying kites, laser illumination, high-powered lights, lasers, Remotely Piloted Aircraft Systems, model aircraft, or similar means.

110. Volcanic ash encounter.

111. Difficulty in controlling intoxicated, violent, or unruly passengers.

112. Discovery of a stowaway.

7.4 ANONYMOUS REPORTING

In addition to regular reporting channels, a confidential and non-punitive anonymous reporting system is available to all personnel through the company's dedicated platform. This system allows staff to report any event, error, or discrepancy they are hesitant to report via standard channels without identifying themselves.

*Note: It is important to acknowledge that while the system aims to foster a robust reporting culture and mitigate individual anxieties, **Mukamalah Aviation** does not actively encourage the use of anonymous reporting. As such, the Safety Office reserves the right to independently verify reported facts before processing anonymous submissions to mitigate potential misuse of this provision.*

7.5 CONFIDENTIAL REPORTING

1. A secure confidential reporting system is established to empower all staff to report a wide range of safety-related concerns, including but not limited to:
    a. Hazards
    b. Errors
    c. Safety concerns
    d. Actual or potential safety deficiencies
    e. Incidents
    f. Proposed solutions
    g. Safety improvements
2. The success of this system hinges on two fundamental principles:
    a. Absolute Protection: The organization guarantees complete confidentiality and anonymity for all reports submitted through this system.
    b. Empowered Reporting: Individuals throughout the organization are encouraged to freely report any actual or potential safety concerns without fear of reprisal.
3. Processes:
    a. Investigation and Recommendations: The Corporate Safety Department shall thoroughly investigate every report with a team of experienced and qualified professionals. Subsequently, preventative recommendations addressing the reported concerns will be published.
    b. Encouragement for Reporting: Operational Divisions are responsible for actively encouraging staff to utilize this system, particularly for situations where regular reporting channels may not be readily used due to fear, shyness, case sensitivity, or lack of management cooperation.
    c. Hazard Reporting: Operational staff are encouraged to report any identified hazards through this system, especially those that wouldn't be reported through standard channels.
    d. Submission and Investigation: Confidential reports can be submitted via the Integrated Quality Safety Management System (IQSMS) and will only be accessible to the Vice President of Corporate Safety, Security & Environment, and the Director of Corporate Safety. Following submission, necessary investigations will be conducted with the reporter's information anonymized.
    e. Action and Feedback: The aforementioned individuals will ensure appropriate corrective and preventive actions are taken to address the reported safety issue. Progress updates will be communicated to the reporter through the IQSMS.

Note: Mandatory reports and incident reports cannot be submitted anonymously or confidentially. They must be filed through the appropriate designated channels.

7.6 SAFETY REPORTING – INFORMATION SHARING

7.6.1 Internal Data Sharing

1. To foster a comprehensive understanding of corporate safety within the organization, data gathered through various reporting mechanisms will be periodically disseminated internally. The Corporate Safety Department is responsible for sharing aggregated reporting data with the following groups:
    a. Accountable Executive: The senior-level individual ultimately responsible for safety within the organization.
    b. Safety Review Board (SRB) Members: This group utilizes safety data to develop and implement proactive safety strategies.
    c. Reporting Staff: De-identified, aggregated data summaries will be provided to relevant reporting staff as a form of feedback on the collective effort towards improving safety.

7.6.2 Fleet Operational Performance Report/Engineering Statistics Report

GACAR 4.33, 4.37

The following guidelines govern the submission of reports by relevant operational personnel:

1. Fleet Operational Performance Report: Submitted monthly on the 10th day to the General Civil Aviation Authority (GACA).
2. Engineering Statistics Report:
    a. Aircraft Details: Type-wise breakdown of aircraft registration details, including make, model, and registration marks.
    b. Fleet Flying Details:
        i. Total flying hours (both revenue and non-revenue)
        ii. Number of landings
        iii. Daily fleet utilization (hours and landings)
        iv. Safety Performance: Total number of incidents and the rate per 1000 landings
    c. Technical Delays and Dispatch Reliability:
        i. Total number of technical delays exceeding 15 minutes
        ii. Technical dispatch reliability metric
    d. Maintenance:
        i. Total number of Minimum Equipment Lists (MELs)
        ii. List of active MELs
        iii. MEL rate per 1000 operations
        iv. Total number of major defects with corresponding aircraft details
        v. Incident Reporting: List of occurrences, including ground incidents
    e. Engine Performance Review:

i. Total number of engines owned total engine hours and cycles

ii. Number of scheduled and unscheduled engine removals

iii. Engine hours per premature removal

iv. Unscheduled removal rate per 1000 engine hours

v. In-flight shutdowns per 1000 flight hours

vi. Auxiliary Power Unit (APU) Review: Dedicated review of APU performance data

vii. Defect Analysis: Total number of defects categorized by ATA chapters (three months cumulative and average)

viii. Component Replacements: List of unscheduled component removals and replacements

ix. Auto landing System Reliability (if applicable): Report on the reliability of auto landing systems (Categories I, II, and III)

x. Flight Data Analysis: Reports on flight data analysis including a list of exceedance details

3. The Director of Corporate Safety is responsible for maintaining all monthly data collected through the safety reporting system for a minimum of five years.

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8. SAFETY DATA AND SAFETY INFORMATION MANAGEMENT

8.1 SAFETY DATA AND SAFETY INFORMATION MANAGEMENT

GACAR 4.47

1. The Safety Department utilizes a safety information database integrated with both the Safety Management System (SMS) reporting system and Document Management System (DMS). This database serves as a central repository for the following data points:

    a. Mandatory Occurrence Reports (MORs): Reports of occurrences mandated by regulations.

    b. Confidential Reports: Reports submitted anonymously or confidentially through designated channels.

    c. General Civil Aviation Authority (GACA) Oversight Findings: Outcomes and observations from GACA surveillance, spot-checks, and inspections.

    d. Quarterly Operational Performance and Statistical Data Reports: Periodic reports summarizing operational performance and statistical data.

2. In addition to the above, the Flight Data Analysis Program (FDAP) identifies aircraft operational exceedances, adverse trends, and procedural deviations. This data is also archived within a dedicated electronic database controlled and maintained by the FDAP analyst.

3. Mukamalah Aviation acknowledges its obligation to provide relevant information stored in these databases to the Accident Investigation Bureau (AIB) and GACA upon request.

4. In accordance with AIB Regulation § 7.2, all accident and serious incident reports housed within the standardized descriptive database, ECCAIRS, and the ADREP reporting system of the AIB, as well as deidentified incidents stored within the GACA database, are accessible to the Director of Safety & Quality.

5. This access facilitates the assessment of safety trends and performance, enabling the Director of Safety & Quality to identify areas for improvement and implement effective safety management strategies. Additionally, the accessibility of this data fosters the mutual sharing of vital safety information with International Civil Aviation Organization (ICAO) Contracting States, further promoting global safety collaboration and knowledge exchange within the State Safety Program framework.

8.2 PROTECTION OF SAFETY DATA

GACAR 4.49

This section outlines the principles governing the protection of safety data collected under GACA Part 4:

8.2.1 Purpose of Data Collection

Data collected from individuals, operators, and service providers, whether mandatory or voluntary, is solely used to enhance aviation safety. This includes identifying and addressing potential risks, preventing incidents and accidents, and fostering a robust safety culture within the industry.

8.2.2 Protection from Disclosure

Individuals reporting safety data to the President under GACA Part 4 benefit from the protection from disclosure provisions outlined in GACA Part 193. This ensures individuals reporting potential safety concerns can do so confidentially, protecting them from unauthorized disclosure of their identity or personal information.

8.2.3 Immunity from Punitive Action

Individuals reporting safety information to the President under GACA Part 4 are subject to the immunity from punitive action provisions prescribed in GACA Part 13. This means individuals reporting potential safety issues are protected from retaliation or disciplinary action solely based on their report. It is important to note that this immunity may not apply in situations involving deliberate misconduct, falsification of information, or violations of established safety regulations.

9. SMS RECORDS MANAGEMENT

9.1 SMS DOCUMENTATION AND RECORDS

9.1.1 SMS Documentation

1. All documentation pertaining to the SMS is readily accessible to company personnel through the Document Management System (DMS) application.
2. The Document Control procedures outlined in Corporate Policy Manual Chapter 4 govern the management and control of all SMS-related documentation. This ensures document accuracy, consistency, and proper distribution.

9.1.2 Related Documents

The Safety Management System (SMS) is supported by a comprehensive collection of internal and external safety resources:

1. Internal Sources:
    a. Annual Audit Plan: Outlines the schedule and scope of internal audits conducted to assess the effectiveness of the SMS.
    b. Emergency Response Plan (ERP) Manual: Provides detailed procedures for responding to various emergency situations.
    c. Risk Register: Identifies and prioritizes potential safety hazards within the organization.
2. Company Manuals:
    a. Required Integration: Specific company manuals are integrated with the SMS to ensure alignment and support safety processes. These include:
        i. Operations Manuals and Maintenance Manuals
        ii. Quality Management System Manual
3. Internal Safety Information:
    a. Problematic Use of Psychoactive Substances Manual: Addresses policies and procedures related to substance abuse prevention and detection.
4. External Sources:
    a. Manufacturer Information:
        i. OEM Aircraft Flight Manual: Provides essential flight operation instructions for specific aircraft models.
        ii. OEM Maintenance Manuals, Parts Catalogues, Structural Repair Manuals, and other Maintenance Publications: Offer detailed instructions and information for aircraft maintenance and repair.

iii. OEM Service Bulletins, Service Information Letters, and other Service Instructions and Advice: Communicate critical safety updates and recommendations from the original equipment manufacturer.

b. Regulatory and Advisory Materials:

i. Master Minimum Equipment Lists (MELs) and Configuration Deviation Lists: Specify the minimum equipment required for safe flight and document any deviations from standard aircraft configurations.

ii. GACA and AIB Regulations, Standards, Guidance Material, Airworthiness Directives, Airworthiness Bulletins, Advisory Publications, and other Material: Provide mandatory regulations, recommended practices, and safety directives issued by the General Civil Aviation Authority (GACA) and the Accident Investigation Bureau (AIB).

iii. Other NAA Regulations, Standards, Guidance Material, Airworthiness Directives, Airworthiness Bulletins, Civil Aviation Orders, Advisory Publications, and other Material: Regulations, standards, and guidance materials from other National Aviation Authorities (NAA) relevant to the company's operations.

9.1.3 Records

1. All SMS records must comply with the following criteria:
   a. Legibility: Clear and easily readable.
   b. Dating: Include dates of creation and any revisions.
   c. Identifiable: Easily identifiable for reference purposes.
   d. Orderly Maintenance: Stored in a well-organized manner.
   e. Retention Period: Maintained for a minimum of 5 years. (Exception: Safety Risk Management (SRM) outputs are retained as long as the control remains relevant to operations.)
2. All SMS outputs and communication records undergo regular reviews to ensure:
   a. Retrieval: Easy location and accessibility when needed.
   b. Regular Review: Periodic assessments to identify any necessary updates.
   c. Revisions: Timely updates and revisions as required.
   d. Approvals: Approval for adequacy by authorized personnel.
3. Obsolete documents are promptly removed from all locations where they could be used unintentionally. This ensures only current and valid information is utilized.
4. The Safety Department maintains and manages the following safety documents and records:
   a. Corporate Safety Management System Manual (CSMM)
   b. Emergency Response Procedures Manual
   c. Incident/Accident Investigation Reports
   d. Flight Data Analysis (FDA) Event Reports

e. Safety/SMS Audit Reports and Internal Reviews

f. Reports on SMS/FDA Trend Analysis and Risk Assessments

g. Minutes of Safety Review Board (SRB) and Safety Action Group (SAG) Meetings

h. Hazard and Risk Register and Hazard/Safety Reports

i. Safety Performance Indicators (SPIs), Targets, and Related Charts

j. Safety Promotion Records

k. Personnel SMS/Safety Training Records

l. SMS Implementation Plan/Gap Analysis

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10. FATIGUE RISK MANAGEMENT SYSTEM (FRMS)

GACAR Part 5 Appendix G

10.1 FRMS POLICY

1. Safety First: Mukamalah Aviation's Commitment to Combating Fatigue
2. Mukamalah Aviation prioritizes the safety and well-being of everyone—personnel, passengers, and the public—by actively managing fatigue. We recognize its significant risk to operations and are committed to mitigating it through our comprehensive Fatigue Risk Management System (FRMS).
3. Shared Responsibility, Collective Action:
    a. Shared Responsibility: Our FRMS success rests on everyone's shoulders—management, crew, and all involved personnel. Together, we manage and mitigate fatigue risks.
    b. Resources and Reporting: We offer dedicated resources to support the FRMS, encourage robust safety reporting, and continuously improve the system. Clear lines of responsibility ensure everyone plays their part.
    c. Safety Culture & Prevention: We foster a safety-first culture, emphasizing fatigue prevention over incident response.
    d. Industry Aligned, Well-being Focused: Our FRMS adheres to best practices and regulations, promoting operational resilience and prioritizing personnel well-being.
4. Our Fatigue Risk Management Objectives:
    a. Scientific Assessment & Mitigation: We leverage validated tools and methods to scientifically assess and manage fatigue risks.
    b. Proactive Strategies: Based on the assessments, we develop and implement mitigation strategies, focusing on preventing fatigue-related incidents.
    c. Comprehensive Training: We provide in-depth education and training to enhance awareness and understanding of fatigue among all personnel.
    d. Schedule & Roster Optimization: We develop schedules and rosters that consider circadian rhythms and rest requirements, minimizing fatigue risks.
5. Accountability & Commitment:
    a. These objectives apply to all Mukamalah Aviation employees and management. Our Accountable Executive holds the ultimate responsibility and accountability for the FRMS's successful implementation.
    b. All FRMS data, process and procedure refers to FRMS manual.

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11. FLIGHT SAFETY DOCUMENTS SYSTEM (FSDS)

GACAR Part 5 APPENDIX A

11.1 FLIGHT SAFETY DOCUMENTS SYSTEM (FSDS) POLICY

1. The Flight Safety Documentation section has been established as a centralized documentation system (FSDS) in accordance with GACAR Part 5, Appendix A, Sub-para III. This system serves as a single repository for all flight safety documentation, ensuring standardization and consistency across the organization.
2. The central FSDS plays a crucial role in upholding corporate standards for documentation. This standardization encompasses.
3. Consistency in writing style, use of graphics and symbols, and overall format for clear and easily accessible information.
4. Unified use of terms throughout all documents to avoid confusion and ambiguity.
5. Reliable location for specific information types, including consistent units of measurement and code usage, facilitating easy retrieval and analysis.
6. By implementing this centralized system, Mukamalah Aviation Company aims to enhance the quality, clarity, and efficiency of its flight safety documentation, ultimately contributing to improved safety outcomes.

All FSDS data, process and procedure refers to CPM manual 2.5.

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