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0.8 LIST OF COMPLIANCE ENTRIES

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0.11.3	COMMON LANGUAGE	IOSA	FLT 3.1.1
0.11.5	HUMAN FACTOR PRINCIPLES	GACAR	121.139, 121.533
		IOSA	FLT 1.7.4
0.13.3	DISTRIBUTION LIST AND AVAILABILITY	GACAR	121.151, 121.155
0.13.4	PUBLICATION HIERARCHY	IOSA	ORG 2.5.3
0.13.8	FORMAT AND DOCUMENTATION CONTROL REQUIREMENTS	IOSA	ORG 2.5.1, ORG 2.5.3
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0.9 MANAGEMENT APPROVAL

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Issue:	00
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Recommended by:		Date:	
Title:			
Signature:			

Quality Review by:		Date:	
Title:			
Signature:			

Approved by:		Date:	
Title:			
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0.10 GACA ACCEPTANCE

This manual is a controlled document, prepared to meet the requirements of the General Authority of Civil Aviation Regulations (GACAR) and is herewith accepted/approved by the General Authority of Civil Aviation (GACA) exclusively for the use of Riyadh Air.

If any conflict exists between the contents of this manual and GACA requirements, GACA requirements shall take precedence, and the manual will be revised without delay in accordance with GACA [eBook Vol.4 Ch.12, section 4](#).

All contents of this manual are current, as listed in the List of Effective Pages (LEP) Revision 0. 18 Feb 2024.

This manual becomes 'uncontrolled' when printed.

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0.11 INTRODUCTION

0.11.1 Policy

The Flight Data Analysis Program (FDAP) sometimes referred to as Flight Data Monitoring (FDM) or Flight Operational Quality Assurance (FOQA) is a systematic tool for proactive identification of hazards. It involves the process of analyzing recorded flight data in order to improve the safety of Aircraft operations and compliments the Riyadh Air Safety Risk Management and incident investigation program of Riyadh Air. The FDM is a proactive and non-punitive program using routine collection and analysis of flight data to develop objective and predictive information for advancing safety, e.g. through improvements in flight crew performance, training effectiveness, operational procedures, maintenance, and engineering procedures.

This FDAP has been developed and issued by the Riyadh Air Safety Department, FDAP Cell. The manual is specifically oriented and focused to define the Flight Data Analysis Program of Riyadh Air.

The Manual provides guidance to Riyadh Air Safety personnel involved in the establishment and functioning of FDAP. This manual is developed under the authority of Vice President Corporate Safety, Security, Quality and Environment (VPCSSQE) and has been prepared as per the requirements laid down in GACAR Part 05 and e-book Volume 2 ICAO Document 9859/10000.

0.11.2 Applicability

FDAP serves as an essential guide for all operational personnel in the organization, and it is incumbent upon every employee, regardless of their role, to adhere to the policies, procedures, regulations, guidance, and instructions detailed within this manual.

0.11.3 Common Language

Refer to Corporate Policy Manual, Section 0.11.1.

0.11.4 Usage Of Terms

Refer to Corporate Policy Manual Section 0.11.2.

0.11.5 Human Factor Principles

Refer to Corporate Policy Manual Section 0.11.5.

0.11.6 Applicable Regulations and Standards

Throughout this manual, compliance tags are used to help users easily locate and reference applicable regulations, rules, standards, and recommended practices. These tags are a systematic and organized

way to manage and ensure adherence to regulatory requirements, company policies and industry standards.

This allows Riyadh Air to ensure that all regulatory standards imposed by the GACA and other aviation authorities are explicitly covered. Where an applicable regulation, rule or standard exists, the relevant section of the Operations Manual includes a header bar listing the applicable regulation and/or standard (example below).

Example Header:

GACAR § 121.123

The following regulations and standards addressed in this manual, include:

1. GACA Regulations:
 - a. PART 4 - Occurrence Reporting And Safety Information System
 - b. PART 5 - Safety Management Systems
2. IATA Standards Manual, applicable edition.
3. Aviation Investigation Bureau Regulations (AIBR).



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0.12 ABBREVIATIONS, ACRONYMS AND DEFINITIONS

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0.12 ABBREVIATIONS, ACRONYMS AND DEFINITIONS

0.12.1 Abbreviations And Acronyms

C	
CFIT	Controlled Flight into Terrain
CVR	Cockpit Voice Recorder
D	
DFDR	Digital Flight Data Recorder
DMS	Document Management System
DOS	Director of Safety
DP	Distributed Processing
E	
EMS	Event Measurement System
F	
FDA	Flight Data Analysis
FDAP	Flight Data Analysis Program
FDAU	Flight Data Acquisition Unit
FDIMU	Flight Data Interface Management Unit
FDM	Flight Data Monitoring
FDW	Flight Data Warehouse
FOQA	Flight Operations Quality Assurance
FSDS	Flight Safety Documentation System
G	
GACA	General Authority of Civil Aviation
GACAR	General Authority of Civil Aviation Regulations
O	
ODW	Operational Data Warehouse
L	
LOC-I	Loss of Control In-Flight



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0.12 ABBREVIATIONS, ACRONYMS AND DEFINITIONS

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M	
MAC	Mid-Air Collision
P	
PCMCIA	Personal Computer Memory Card International Association
Q	
QAR	Quick Access Recorder
R	
RE	Runway Excursion
RXI	Riyadh Air
S	
SDCPS	Safety Data Collection and Processing System
SMS	Safety Management System
SOP	Standard Operating Procedure
SPI	Safety Performance Indicator
U	
URA	Universal Resolver Architecture
W	
WASABI	Wide Area Store-and-forward Aviation Binary Interchange

0.12.2 Definitions

A	
Aggregate Data.	The summary statistical indices that are associated with FOQA event categories, based on an analysis of FOQA data from multiple aircraft operations.
Aggregation.	The process that groups and mathematically combines individual data elements based on some criterion (e.g., time, geographical location, event level, aircraft type). Each aggregation is based on factors of interest to the analyst at a particular point in time.
D	
Data Validation.	A process during which flight data are reviewed to see that they were not generated as a result of erroneous recording or damaged sensors.



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De-identified Data.	Data from which any identifying elements that could be used to associate them with a particular flight, date, or flight crew has been removed
E	
Event.	An occurrence or condition in which predetermined values of aircraft parameters are measured. Events represent the conditions to be tracked and monitored during various phases of flight and are based on the sensory data parameters available on a specific aircraft fleet.
Event Category.	Event categories are areas of operational interests (e.g. aircraft type, phase of flight, geographical location) on which FOQA event monitoring and trend analysis is based.
Event Levels.	The parameter limits classify the degree of deviation from the established norm into two or more event severity categories. When assigning levels to an event, consideration is given to compliance with federal regulations, aircraft limitations and company policies and procedures.
Event Validation.	The process in which an event is determined to be a valid sample of operation outside the established norm. Even though aircraft parameter limits may have been exceeded, a valid event may not have occurred (e.g. significant localizer deviation may have occurred when an aircraft was making a sidestep approach to a parallel runway).
F	
Flight Data Acquisition Unit (FDAU).	A device that acquires aircraft data via a digital data bus and analog inputs and that formats the information for output to the flight data recorder in accordance with requirements of regulatory agencies. In addition to the mandatory functions, many FDAUs have a second processor and memory module that enables them to perform additional Aircraft Condition Monitoring System (ACMS) functions/reports. The FDAU can provide data and predefined reports to the cockpit printer, directly to Aircraft Communications Addressing and Reporting System (ACARS) for transmittal to the ground, or to a Quick Access Recorder (QAR) for recording/storage of raw flight data. The FDAU can also display data for the flight crew
Flight Data Recorder (FDR).	A required device that records pertinent parameters and technical information about a flight. At a minimum, it records those parameters required by the governing regulatory agency but may record a much higher number of parameters. An FDR is designed to withstand the forces of a crash so that information recorded by it may be used to reconstruct the circumstances leading up to the accident.



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0.12 ABBREVIATIONS, ACRONYMS AND DEFINITIONS

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Flight Quality (FOQA).	Operational Assurance	<p>A voluntary program for the routine collection and analysis of flight operational data to provide more information and greater insight into the total flight operations environment. A FOQA program combines this data with other sources and operational experience to develop objective information to enhance safety, training effectiveness, operational procedures, maintenance, engineering procedures and air traffic control (ATC) procedures.</p> <p>Ground Data Replay and Analysis System (GDRAS). A software application designed to:</p> <ol style="list-style-type: none">1. Transform airborne-recorded data into a usable form for analysis.2. Process and scan selected flight data parameters.3. Compare recorded or calculated values to predetermined norms using event algorithms.4. Generate reports for review.
P		
Parameters.		<p>Measurable variables that supply information about the status of an aircraft system or subsystem, position, or operating environment. Parameters are collected by a data acquisition unit installed on the aircraft and then sent to analysis and reporting systems.</p>
Phase of Flight.		<p>The standard high-level set of activities performed by pilots on all operational flights (i.e., preflight, engine start, pushback, taxi, takeoff, climb, cruise, descent, holding, approach, landing, taxi and postflight operations).</p>
Q		
Quick Access Recorder (QAR).		<p>A recording unit onboard the aircraft that stores flight recorded data. These units are designed to provide quick and easy access to a removable medium on which flight information is recorded. QARs may also store data in solid-state memory that is accessed through a download reader. QARs have now been developed to record an expanded data frame, sometimes supporting over 2,000 parameters at much higher sample rates than FDR. The expanded data frame greatly increases the resolution and accuracy of the ground analysis programs.</p>
S		
Stakeholder.		<p>Constituencies that are potential users of FOQA data and that have a stake in the program's success.</p>

0.13 SYSTEM OF AMENDMENT AND REVISION

0.13.1 Manual Ownership

The Vice President Corporate Safety, Security, Quality and Environment (VPCSSQE) is responsible for overseeing Flight Data Analysis Program (FDAP) and serves as the Manual Owner. All revisions to the manual undergo a structured approval process.

The VPCSSQE has the final authority to approve amendments to FDAP. This emphasizes the manual owner's significance in ensuring document accuracy and compliance. Any amendments that require GACA approval or acceptance are submitted for review before they are published.

To ensure efficient dissemination of information, all approved amendments are shared electronically with manual holders. This aligns with Riyadh Air's commitment to transparent and accessible communication of operational updates.

This systematic approach reflects Riyadh Air's dedication to upholding rigorous standards in operational documentation.

0.13.2 Manual Holder Responsibility

No relevant personnel within the operational framework may perform their duties without access to a current copy of the FDAP. This policy highlights the importance of real-time information in creating a safe and efficient operational environment. Regular manual updates not only help conform to regulations but also enhance the overall effectiveness of our personnel in carrying out their responsibilities with precision and in accordance with industry best practices.

Note: Uncontrolled copies of this Manual shall not be used.

0.13.3 Distribution List and Availability

GACAR § 121.151 / § 121.155

At Riyadh Air, all operational personnel are provided with an updated electronic copy of this manual along with other relevant manuals. Subsequent updates are also given to the appropriate personnel, including but not limited to ground operations staff, maintenance staff, crew members, and assigned GACA representatives.

It is mandatory for the recipients of these manuals to keep them up to date with the provided changes and additions.

0.13.4 Publication Hierarchy

IOSA ORG 2.5.3

Refer to Corporate Policy Manual Section 0.13.4.

0.13.5 Manual Structure

The Emergency Response Manual is divided into 8 chapters and Appendices, as shown below:

- 0 FRONT MATTER
- 1 FLIGHT DATA ANALYSIS PROGRAM OVERVIEW
- 2 DATA PROTECTION AND LEGAL AGREEMENTS
- 3 ORGANIZATION STRUCTURE
- 4 FDAP DATA ANALYSIS
- 5 CREW CONTACT / COUNSELING
- 6 ACTING ON RESULTS AND FOLLOW-UP
- 7 PROTECTION AND RETENTION OF FDAP DATA
- 8 SERVICEABILITY AND THE FDM SYSTEM
- 9 CONTINUOUS IMPROVEMENT
- 10 APPENDIX

0.13.6 Source of Amendments

Refer to Corporate Policy Manual, Section 0.13.6.

0.13.7 Referenced and Linked Documents

FDAP is interconnected with the following Regulations and Manuals. When changes are made to any of the below Regulations or Manuals, Riyadh Air undertakes a review of the relevant changes for incorporation into ERM.

1. GACAR - Safety Regulations.
2. CPM - Corporate Policy Manual.
3. Corporate Safety Management Manual (CSMM).

0.13.8 Format and Documentation Control Requirements

IOSA ORG 2.5.1 / ORG 2.5.3

Refer to Corporate Policy Manual, Section 0.13.8.



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0.13.9 Error Reporting and Corrections and Suggestions for Improvement

All personnel are responsible for maintaining the accuracy and integrity of Riyadh Air's operations. If an employee comes across an error, notices any incorrect information in this manual or has a suggestion, they should report it to the Safety office. They will acknowledge receipt of the information and provide feedback to the concerned employee on their suggestion, the action taken to fix the error or update the information.

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