2020
FIRST QUARTER REPORT

AVIATION INVESTIGATION BUREAU
KINGDOM OF SAUDI ARABIA

CONTENTS


AIB

DIRECTOR'S FOREWORD

Theeb A. Al-Otaibi
Director of Safety Analysis

Why is safety important in the aviation world?

The importance of safety and security in the world of aviation has always been crucial and non-negotiable. A low level of safety in airports during various operations will cause unforeseen accidents and other severe complications, which will, in turn, threaten aviation safety. Hence, it is obligatory for all aviation service providers to activate their Safety Management System (SMS) to ensure they operate in a safe environment, as per the requirements of the General Authority of Civil Aviation (GACA).

The AIB is always keen on finding deficiencies in the implemented safety programs through various investigations and safety studies. As a result, it issues the appropriate safety recommendations and then follows up on the implementation of these recommendations with the concerned parties.

> The impressive air transportation level of safety and its advancement, is the result of committed and continues tackling of what might be perceived as insignificant contributions

Hazim Fairaq – Aircraft Performance Engineer

FACTS & FIGURES

The AIB had received 258 events during the first quarter of 2020, 1 accident, 1 serious incident, 67 incidents, and 189 non-occurrences. In addition, four investigations were conducted, and four safety recommendations were issued. The illustrations below show key statistics of the first quarter of 2020.

EVENTS 258

Accidents	**1**
Serious Incidents	**1**
Incidents	**67**
Non-Occurrences	**189**

INVESTIGATION REPORTS 4

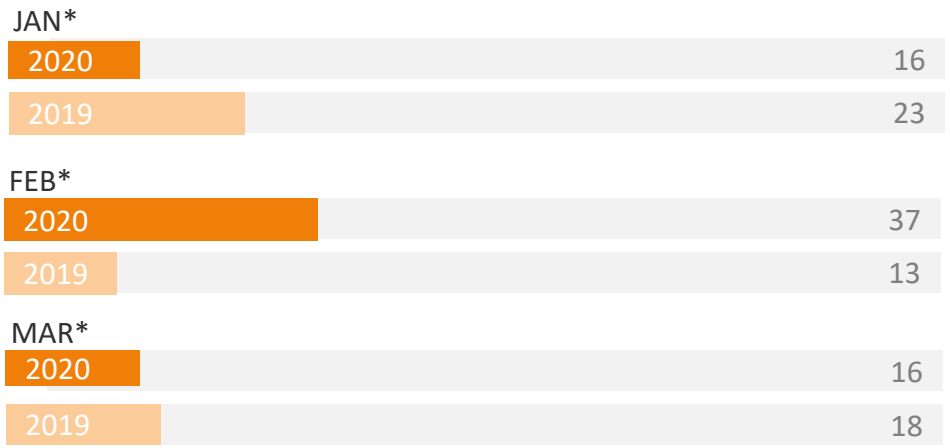
Annex 13 – Full Scope Investigations	**2**
Limited Scope Investigations	**1**
Preliminary	**1**

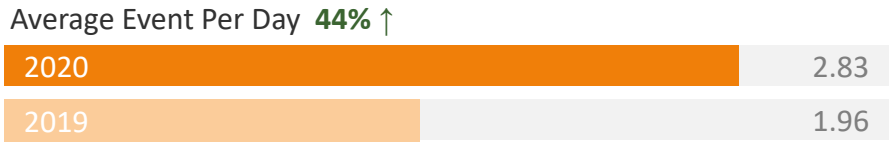
RECOMMENDATIONS 4

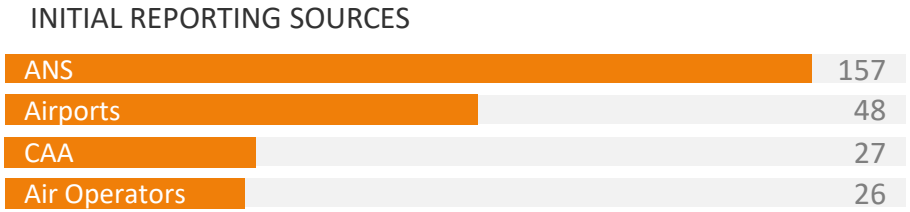
Safety Recommendations	**2**
Stand-alone Recommendations	**2**

OTHER REPORTS 9

Safety Concerns	**1**
Initial Assessments	**6**
Discontinued	**1**
Accredited Representative	**1**

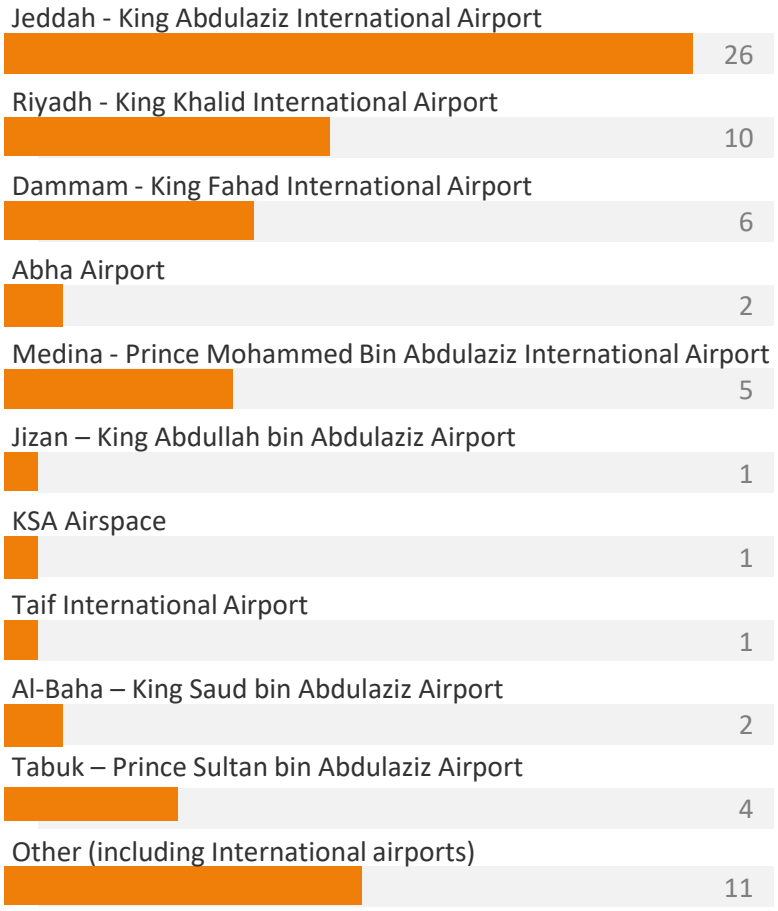


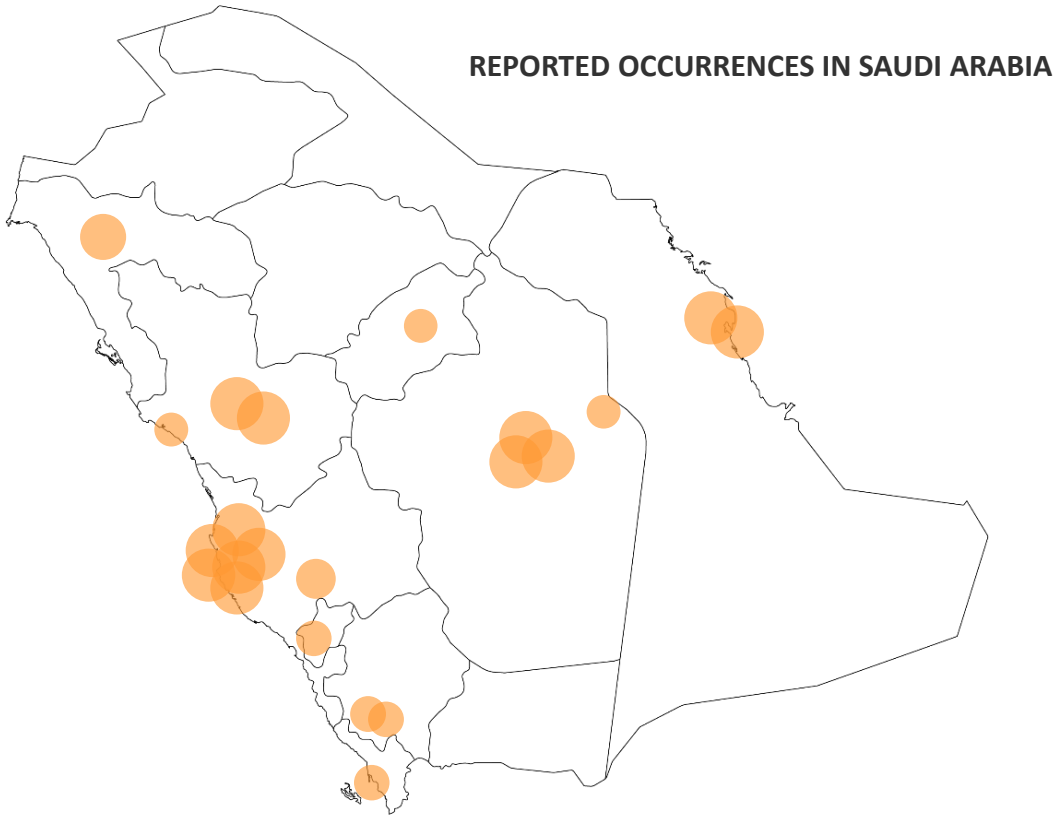




* comparison between 2019 and 2020 does not include non-occurrences.

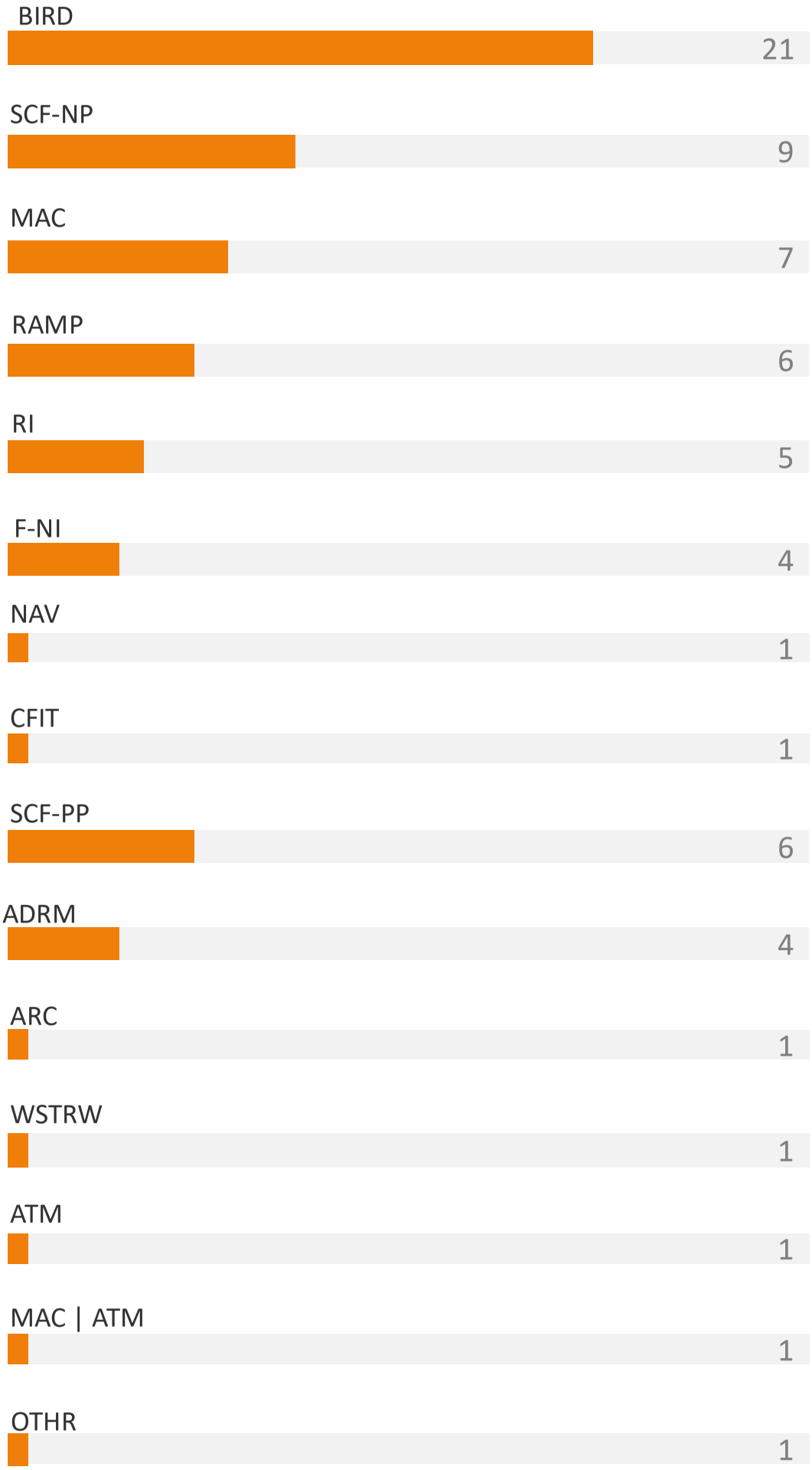
LOCATION





RISK INDEX

CATEGORY


BIRD
21
SCF-NP
9
MAC
7
RAMP
6
RI
5
F-NI
4
NAV
1
CFIT
1
SCF-PP
6
ADRM
4
ARC
1
WSTRW
1
ATM
1
MAC | ATM
1
OTHR
1

SIGNIFICANT OCCURRENCES

BIRD 110%↑

2020	21
2019	10

SCF-NP 29%↑

2020	9
2019	7

MAC 42%↓

2020	7
2019	12

RAMP 50%↓

2020	6
2019	12

RI 150%↑

2020	5
2019	2

Flight Recorders Downloads and Analysis

Total Flight Recorders Downloads and Analysis	**8**
for AIB Investigation	**4**
for Technical Assistance	**4**
Aircrafts-Involved	**6**
Saudi Registered	**4**
Foreign Registered	**2**
Flight Recorder Report Issued	**1**

TOP EMERGING RISKS

WSTRW	26
NAV	22
ADRM	25

AIRCRAFT TYPE

A320	31	A330	13	B777	10
A321	5	B747	3	OTHER	7

COVID-19 IMPACT & READINESS

1st recorded case in Saudi Arabia*

2 March 2020

International Flights Suspended*

15 March 2020

Domestic Flights Suspended*

21 March 2020

As the world goes through this challenging period with the Covid-19 pandemic, the AIB team is fully committed to assume its responsibilities towards the aviation industry in the Kingdom. Our two main aims are:

- Maintain health and safety of our employees.
- Assure the continuation of smooth investigation operations.

The AIB immediately adapted to the current situation by performing its functions remotely and came up with an Emergency Response Plan to ensure efficient and effective results given the global circumstances.

* Source: Saudi Ministry of Health

SIGNIFICANT ONGOING INVESTIGATIONS

1 AIB-210120-254 | Incident

Mid Air Collision (MAC) (TCAS RA) - AIRPROX/NEAR MISS/ Mid Air Collision (MAC)

On 21 January 2020, the Aviation Investigation Bureau (AIB) of the Kingdom of Saudi Arabia received a notification from the Saudi Air Navigation Services of a TCAS-RA occurring between an A320 operating flight FAD4234 during its descent to OETB and 2 Military F-15s. All aircraft involved landed safely and no injuries occurred as a result of the incident.

3 AIB-100220-115 | Accident

Controlled Flight Into Terrain (CFIT)

At approximately 11:08 on 10 February 2020, the Aviation Investigation Bureau (AIB) of Kingdom of Saudi Arabia was notified of a controlled flight and collision with terrain, involving a Thrush aircraft, registration 5Y-BZM, departing from Quz South Airport (OE48) to Sulayel Airport (OESL) in Saudi Arabia

Figure 1 : 5Y-BZM collided into mountains

2 AIB-080120-030 | Incident

Runway Incursion (RI)

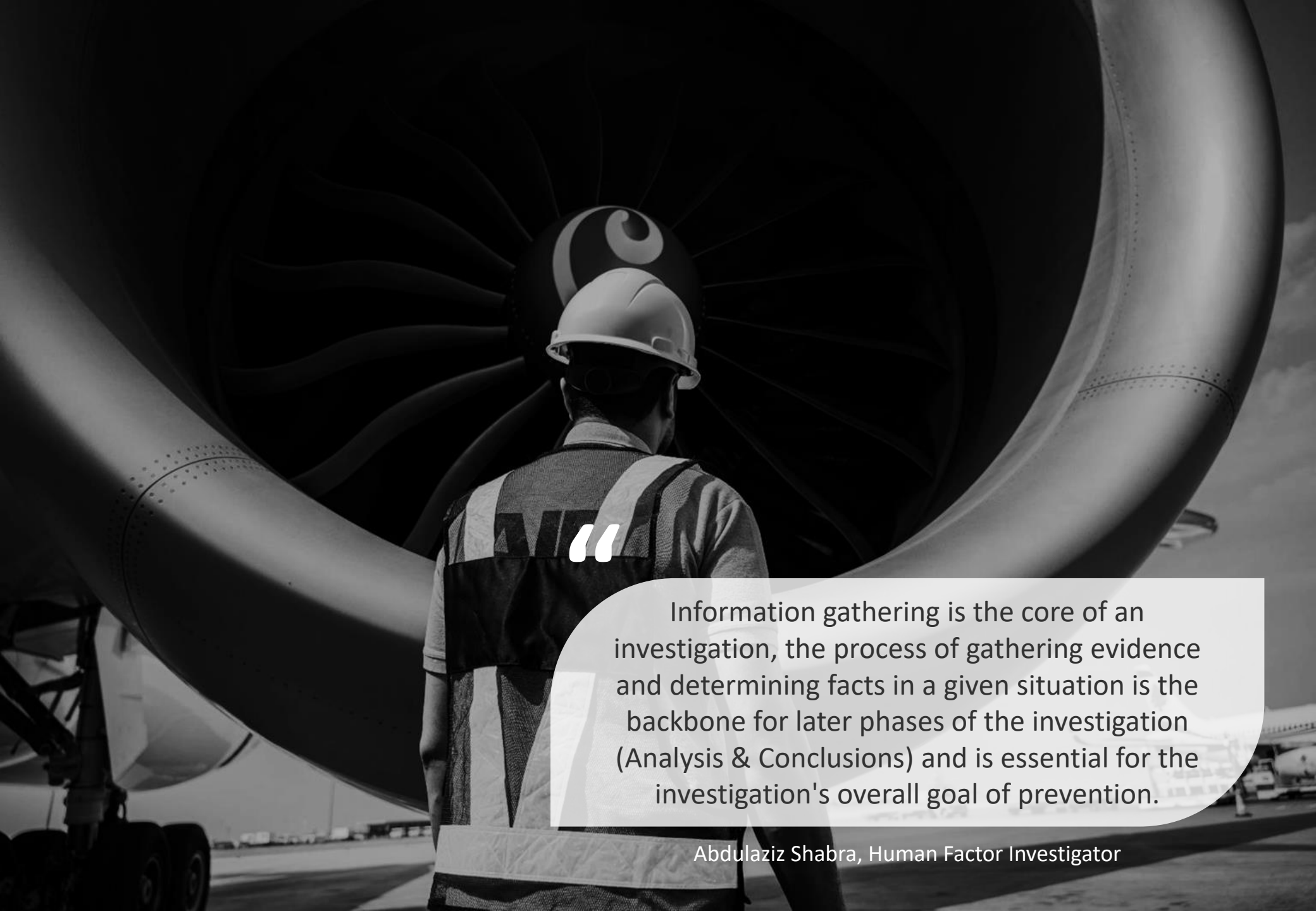
On 14 January 2020, the AIB was notified of a Runway Incursion (RI) at King Abdulaziz International Airport (OEJN) occurring on Runway - 34L through the Saudi Air Navigation Services (SANS) operations.
An ATR 72 aircraft, registration and callsign (HZ-A11), operated by Alpha star entered the runway while an Airbus A320 aircraft, registration HZ-FAC operated by Flyadeal (FAD 4661) was still occupying the runway.

4 AIB-310120-092 | Serious Incident

Tail Strike - ABNORMAL RUNWAY CONTACT (ARC)

On 01 February 2020 at approximately 00:08, the Aviation Investigation Bureau (AIB) of the Kingdom of Saudi Arabia received a notification from Dammam airport authority of a B747-400F, registration TC-MCT, flight SVA919 had tail-strike while departing from King Fahd International Airport (OEDF), Dammam, Saudi Arabia to Zaragoza Airport (LEZG), Spain and diverted to King Abdulaziz International Airport (OEJN) Jeddah, Saudi Arabia.

Figure 2: Tail strike damage



“

Information gathering is the core of an investigation, the process of gathering evidence and determining facts in a given situation is the backbone for later phases of the investigation (Analysis & Conclusions) and is essential for the investigation's overall goal of prevention.

Abdulaziz Shabra, Human Factor Investigator

1 AIB-2019-0034 | Serious Incident | Full Scope Investigation Annex 13

Landing on a Closed Taxiway -Navigation Error (NAV)

On 26 February 2019, a Saudi ARAMCO B737-800 aircraft, registration N803XA, scheduled for a three-sector flight that started from King Fahd International Airport (OEDF), Dammam, to Arar Domestic Airport (OERR), then to Al Wajh Domestic Airport (OEWJ) and then back to OEDF. On the second sector from OERR to OEWJ, the flight crew landed on the closed Taxiway-A (previously Runway-15T), the last sector back to OEDF was canceled and the AIB requested the Cockpit Voice Recorder (CVR) circuit breaker to be pulled. No injuries reported as a result of the occurrence. Overall, a number of safety concerns were identified during the course of the investigation , these concerns included the flight crew's lack of knowledge and/or understanding of the issued NOTAMS of the reopening of RWY-15, the closure of TWY-A, the closure of apron 1, and the cancelation of the RNAV approach for Runway-15T. Additional deficiencies with the dispatcher pre-flight briefing were observed. The flight crew selection and execution of the canceled RNAV approach for RWY-15T restricted to VMC conditions was recorded by the FDR and CVR. Safety recommendations addressing operating procedures and training were issued to the operator.

Figure 3: Closed Taxiway

2 AIB-2017-0616 | Serious Incident | Full Scope Investigation Annex 13

System/Component Failure or Malfunction (non-powerplant) (SCF-NP) & Fire/Smoke (Non-Impact) (F–NI)

On 22 December 2017, Saudi Arabian Airlines, Airbus A321-211 aircraft, with registration number HZ-ASQ, was operating a scheduled passenger flight number SVA501, from Kuwait International Airport (OKBK), State of Kuwait, to King Abdul-Aziz international airport (OEJN), Jeddah, Kingdom of Saudi Arabia. HZ-ASQ landed safely on runway (RWY) 16R and taxied to the assigned parking stand at apron number (3-9). While the passengers were still on board the aircraft, the ground services staff tasked to place the parking chocks at nose landing gear observed fire on the right main landing gear. Initial firefighting was done by the Saudi Ground Services (SGS) staff. The Fire and Rescue Services (FRS) arrived at the aircraft stand, put out the fire, and restored the condition to normal. The passengers were deplaned safely using air stairs connected to L1 door. No injuries were reported as a result of this incident. The causal factor of the brake fire incident could not be specifically determined. However, it is most likely the ruptured tie-bolt head was the trigger that started a chain of events of breakage and failures of parts and systems that ended with brake fire. During the progress of this investigation, a number of safety findings were observed and were communicated with the Operator, the MRO, and the FRS, launching corrective and preventive actions to prevent or mitigate reoccurrence of similar incident, such as:

- The Operator mandated performing a Non-Destructive Testing (NDT) on MLG wheel tie-bolts at every shop visit.
- MRO Shop technicians received vendor onsite training to improve their performance (including but not limited to tie-bolt maintenance handling process).
- The Technical Services Training Department released Training Bulletin number 431, dated 06 November 2019, as an awareness tool for addressing the tie-bolt installation requirements and standard practice.
- FRS management issued and circulated an instruction letter to all staff, to strictly adhere to established safety standards and procedures whenever responding to any emergency situation, as outlined in the Standard Operating Procedures (SOP).

The AIB issued a recommendation to the operator of performing a reliability study on current fleet, to test the performance of landing gear wheels and brakes consumable parts.

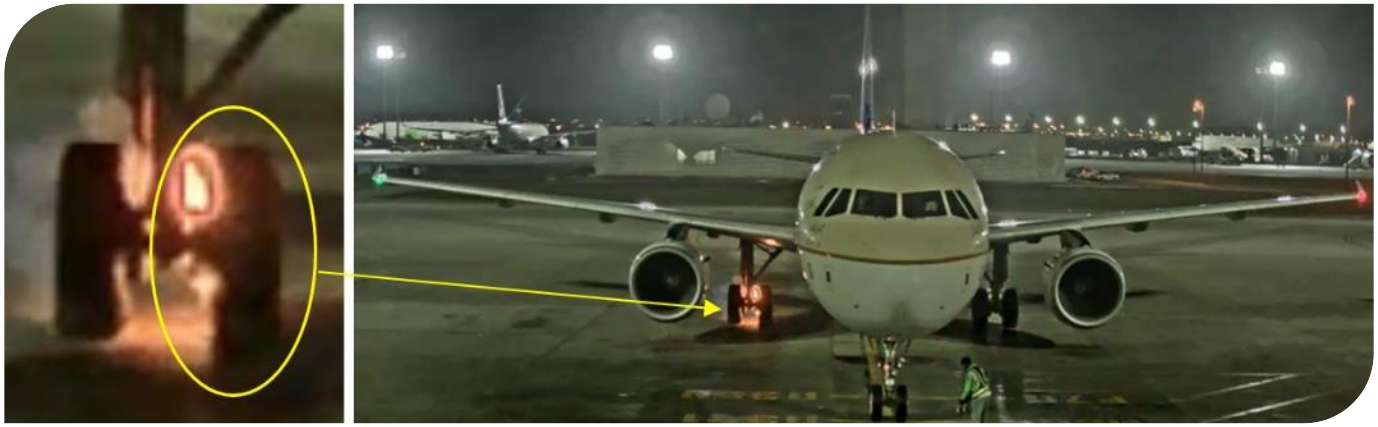


Figure 4: A320-211 fire on the right main landing gear

3 AIB-2019-0110 | Incident | Limited Scope Investigation

Runway Incursion (RI)

On 23 July 2019, a C130 aircraft was operated by Royal Saudi Air force (RSF265) from Prince Abdulmohsin Bin Abdulaziz Airport (OEYN), Yanbu to King Abdulaziz International Airport (OEJN), Jeddah. At approximately 10:58 (Local time) and when RSF265 was on short final to runway 34 right (RWY-34R)-OEJN, a vehicle crossed RWY-34R. The vehicle was a motorized equipment (forklift) with registration SV-G29899 operated by Saudia Aerospace Engineering Industries (SAEI) that was proceeding from SAEI main hangar in the west side of the airport to SAEI substation in the east side. RSF265 landed safely and the forklift operator proceeded to his destination uneventfully. Overall, a number of safety concerns were identified during the course of the investigation , these concerns included the forklift operator's lack of knowledge pertaining to airside driving procedures and safety in the vicinity of the airport maneuvering area (runways and taxiways), the absence of mandatory instructional signs on roads leading to the maneuvering area, and the lack of refresher training for license renewal. Safety recommendations addressing current licensing process/requirements and service road identification were issued to the airport authority.

"

An event is not always a disaster, not reporting one could be

Albaraa Naser, Operation Control Center Manager

SAFETY RECOMMENDATIONS

1 AIB-2019-0034-SR-01

Saudi ARAMCO Aviation Department to introduce risk controls, ensuring procedural items of primary importance (4.6.1 of ARAMCO's FOM) are effectively followed during the preflight aircrew briefing.

2 AIB-2019-0034-SR-02

Saudi ARAMCO Aviation Department should revisit its Crew Resource Management (CRM) training program to ensure the effectiveness of the "Trans Cockpit Authority Gradients" and disseminating the lessons learned.

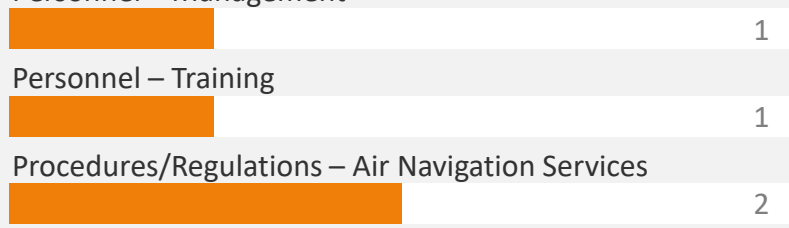
3 AIB-2019-0223-SAR-01

The Saudi Air Navigation Services (SANS) to ensure that all uncontrolled aerodromes provided with Aerodrome Flight Information Service Units (AFISU) adhere to traffic information provision in accordance with the AIP subsection ENR 1.1 (§ 1.1.4.2) and to refrain from issuing clearances/instructions to traffic.

4 AIB-2019-0223-SAR-02

The Saudi Air Navigation Services (SANS) to study the feasibility of including additional message; such as "This is an uncontrolled Aerodrome; TIBA procedure is in effect" in the transmitted messages by the Automatic Terminal Information Service (ATIS) in all uncontrolled aerodromes where only Aerodrome Flight Information Service (AFIS) is provided to avoid possible misunderstanding by aerodrome and surrounding airspace users.

Recommendation Subject



1 The Yemen CAMA Flight Safety Visit

15/01/2020 | Jeddah, Saudi Arabia

On 15 January 2020, representatives from the Yemen Civil Aviation and Meteorology Authority (CAMA) visited the AIB facility. The AIB discussed and presented the investigation authority role, guidelines, capabilities, and processes. The visit included a tour of the Flight Recorder Lab, site deployment equipment, investigation room equipment, and Operation Control Center. It was a fruitful and beneficial visit for both entities, and laid the ground for future cooperation.

Figure 5: Group photo of The Yemen CAMA Flight Safety Visit with AIB Team in AIB Facility

2 General Security Aviation Command Visit

20/01/2020 | Jeddah, Saudi Arabia

On 20 January 2020, representatives from the General Security Aviation command visited the AIB Head Quarter. The AIB discussed capabilities, tools and procedures that could assist the General Security Aviation Command in their future investigations and safety analysis process. A short tour was conducted involved the following:

- Visit Flight Recorder Lab
- Site deployment equipment
- Investigation room equipment
- Operation Control Center

This visit was a foundation for a strong cooperation between the AIB and the General Security Aviation Command.

3 National Transportation Safety Committee Visit

15/03/2020 | Jeddah, Saudi Arabia

On 15 March 2020, members of the National Transportation Safety Center Committee (NTSC), responsible for the development of the planned National Transportation Safety Center visited the AIB facility. The AIB presented the current investigative capabilities and procedures, specifically in the areas of site deployment/safety, evidence collection, and human factors in investigations.

The visit included a tour and a demonstration of the following:

- FDR lab & engineering equipment
- Investigation safety and evidence collection equipment
- Site deployment trailers

The effort was well received by the National Transportation Safety Committee.

4 Global Aviation Safety Plan 2020-2022 and National Aviation Safety Plan Workshop

1-2/03/2020 | Cairo, Egypt

Global Aviation Safety Plan (GASP) 2020-2022 and National Aviation Safety Plan (NASP) Workshop held back-to-back with the RSC/7 meeting. The Workshop was intended to develop competencies for persons involved in the planning and implementation of a national aviation safety plan, in alignment with the ICAO Global Aviation Safety Plan (GASP) and the regional aviation safety plan. This includes identifying national operational safety risks and other safety issues, such as challenges related to the State Safety Program (SSP) implementation, and planning initiatives to address them. The Workshop also addressed the State's strategic approach to managing safety in civil aviation, including national safety goals, targets and indicators. This event focused on flight operations and safety management specialists, civil aviation safety inspectors, airline safety managers, and representatives from organizations involved in accident and incident investigation.

5 Seventh Meeting of the RASG-MID Steering Committee (RSC/7)

3-5/03/2020 | Cairo, Egypt

The Seventh meeting of the Middle East Regional Office – ICAO MID Office (RASG-mid) steering committee held on Cairo and discussed the Adoption of the Provisional Agenda and Election of RSC Co-Chairs, the global developments related to aviation safety, Regional Performance Framework for Safety, and Coordination between RASG-MID and MIDANPIRG also discussed the working arrangements and future work program.

Figure 6: Group Photo of NASP/GASP WORKSHOP in ICAO RASG-MID

1 MVP-50T Readout Capability

25/02/2020 | Jeddah, Saudi Arabia

MVP-50T is a Glass Panel Engine Monitor for Turboprops/Jets. The primary purposes of the device is to replace a number of aircraft gauges and to perform several functions related to the fuel, engine, balance and others. The device is also capable of recording several critical information about the aircraft and the flight, which makes it a useful evidence and source of factual information for the investigations. The importance of developing the means for its readout is especially important as the device is commonly found in general aircraft types that do not require flight recorders, hence, potentially becoming the sole source of the recorded factual information on these aircraft. The AIB has developed the means required to readout the device which include the utilization of additional component that establishes an imitated oil pressure connection to allow the download to be conducted. Newer models of the device do not require such connections anymore. Instead, a programmable pin is programmed to allow the download. This development will surly contribute to the expansion of the capabilities for similar general aviation devices in the future.

Figure 7: MVP-50T connections for download

2 In-House Training

25/02/2020 | Jeddah, Saudi Arabia

The AIB began the year by starting the planned In-House Training Initiative. The objective of the initiative is to share the expertise and knowledge of the many talented members of the AIB. All departments are included and encouraged to share and present a topic of their interest.

The first quarter of 2020 included:

- Presentation Skills from A Communication Perspective.
- Area NAV/Traffic Alert and Collision Avoidance System (TCAS)/ Flight phases.

These presentations were fruitful and beneficial and are only the beginning of the AIB's In-House Training Initiative.

3 The AIB New Numbering System

01/01/2020 | Jeddah, Saudi Arabia

The AIB developed a new numbering system to be more efficient and to show the exact date (day, month and year) for any case. The case number AIB-010120-001 indicates that this occurrence is the first which took place on the first of January of the year 2020.

Figure 8: AIB new numbering system

4 The AIB Duty Officer Program

13/01/2020 | Jeddah, Saudi Arabia

The AIB developed the Duty Officer program so that every junior employee gets On Job Training with an expert in the aviation accident and incident reporting process.

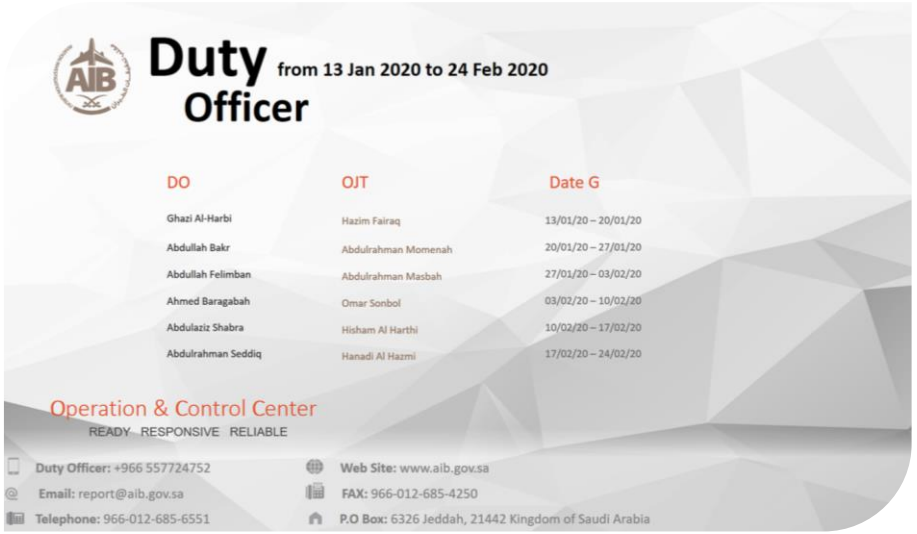


Figure 9: The AIB Duty Officer Program

ABBREVIATIONS/DEFINITIONS

ARC	Abnormal Runway Contact
ADRM	Aerodrome
ANS	Air Navigation Services
ATM	Air Traffic Management Or Communication, Navigation, Surveillance
CAA	Civil Aviation Authority
CABIN	Cabin Safety Events
CFIT	Controlled Flight Into Terrain
F-NI	Fire/Smoke (Non-impact)
F-POST	Fire/Smoke (Post Impact)
FUEL	Fuel Related
MAC	AIRPROX/TCAS Alert/Loss Of Separation/Near Midair Collisions/Midair Collisions
NAV	Navigation Errors
NON-OCCURRENCE	All Aircrafts Events Other Than Incidents, Serious Incidents And Accidents
OTHR	Other
RAMP	Ground Handling
RI	Runway Incursion
RSC	Regional Steering Committee
SEC	Security Related
SCF-NP	System/Componenet Failure Or Malfunction (Non-powerplant)
SCF-PP	System Component Failure Or Malfunction (Powerplant)
WILD	Wildlife
WSTRW	Windshear Or Thunderstorm
TCAS	Traffic Alert and Collision Avoidance System

2020 FIRST QUARTER REPORT

The AIB can be contacted 24/7 at:
Telephone: +966-12-685-4506
Fax: +966-12-685-4250
Cell Phone: +966-55-772-4752
Twitter: AIB_KSA
Web Site: www.aib.gov.sa
E-mail: info@aib.gov.sa
P.O Box: 6326 Jeddah, 21442 Kingdom of Saudi Arabia
YouTube: AIB_KSA