AIRCRAFT ACCIDENT REPORT

AERO/2016/04/09/F

Accident Investigation Bureau

Report on the Serious Incident involving a B737-500 aircraft operated by Aero Contractors Company of Nigeria Limited with Nationality and Registration Marks 5N-BLG which occurred on Runway 18R, Murtala Muhammed International Airport, Ikeja, Lagos
On 9th April, 2016

This report is produced by the Accident Investigation Bureau (AIB), Nnamdi Azikiwe Airport, Abuja, Nigeria.

The report is based upon the investigation carried out by the Accident Investigation Bureau, in accordance with Annex 13 to the Convention on International Civil Aviation, Nigerian Civil Aviation Act 2006, and Civil Aviation (Investigation of Air Accidents and Incidents) Regulations 2016.

In accordance with Annex 13 to the Convention on International Civil Aviation, it is not the purpose of aircraft accident/serious incident investigations to apportion blame or liability.

Readers are advised that the Accident Investigation Bureau investigates for the sole purpose of enhancing aviation safety. Consequently, AIB reports are confined to matters of safety significance and should not be used for any other purpose.

Accident Investigation Bureau believes that safety information is of great value if it is passed on for the use of others. Hence, readers are encouraged to copy or reprint for further distribution, acknowledging the Accident Investigation Bureau as the source.

Safety Recommendations in this report are addressed to the Regulatory Authority of the State (NCAA) as well as other stakeholders, as appropriate. The Regulatory Authority is the authority that ensures implementation and enforcement.

Printed in Nigeria for the Accident Investigation Bureau (AIB)

TABLE OF CONTENTS

TABLE OF FIGURES

GLOSSARY OF ABBREVIATIONS USED IN THIS REPORT

AFM	Airplane Flight Manual
AIB	Accident Investigation Bureau
AOC	Air Operator Certificate
ATC	Air Traffic Control
ATPL(A)	Air Transport Pilot License (Aeroplane)
ATS	Air Traffic Services
CRM	Crew Resource Management
CVR	Cockpit Voice Recorder
DME	Distance Measuring Equipment
DNPO	Port Harcourt International Airport
FDR	Flight Data Recorder
FMC	Flight Management Computer
ICAO	International Civil Aviation Organization
IFR	Instrument Flight Rules
ILS	Instrument Landing System
IMC	Instrument Meteorological Conditions
LLWAS	Low Level Wind Shear Alert System
LOS	Lagos

LT	Local Time
MLG	Main Landing Gear
NCAA	Nigerian Civil Aviation Authority
Nig.CARs	Nigeria Civil Aviation Regulations
NG	Nose Gear
PF	Pilot Flying
PHC	Port Harcourt
PM	Pilot Monitoring
QRH	Quick Reference Handbook
RLG	Right Landing Gear
SOP	Standard Operating Procedure
VHF	Very High Frequency
VMC	Visual Meteorological Conditions
VOR	Very High Frequency Omnidirectional Radio Range
WOW	Weight on Wheel

Aircraft Accident Report No:	AERO/2016/04/09/F
Registered Owner and Operator:	Aero Contractors Company of Nigeria Limited
Manufacturer:	The Boeing Company, USA
Year of Manufacture:	1991
Aircraft Type and Model:	B737-500
Nationality and Registration Marks:	5N-BLG
Serial Number:	25387
Location:	Runway 18R, Murtala Muhammed International Airport, Lagos
Date and Time:	9th of April, 2016 at 18:18 h *(All times in this report are local time, equivalent to UTC+1 unless otherwise stated)*

SYNOPSIS

Accident Investigation Bureau was notified of the serious incident by the Nigerian Civil Aviation Authority (NCAA) on the 10th of April, 2016. Air Safety Investigators were dispatched to the Aero Contractors Company of Nigeria Limited apron where the aircraft was parked and investigation commenced. All appropriate stakeholders were notified accordingly.

On 9th April 2016 at about 18:18 h, a Boeing 737-500 aircraft with nationality and registration marks 5N-BLG, owned and operated by Aero Contractors Company of Nigeria Limited as a scheduled commercial flight (NIG316) from Port Harcourt to Lagos on an Instrument Flight Rules (IFR) flight plan, touched down on runway 18R and veered right of the centreline into the grass verge.

The flight originated from Port Harcourt (DNPO) and the destination was Lagos (DNMM).

Prevailing weather information reported rain overhead the station with a visibility of 3,000 m. During ILS approach on runway 18L, at an altitude of about 500 ft, the crew executed a missed approach due strong cross wind. The crew thereafter requested for runway 18R with ATC weather information reporting wind at 090^{o}/15 kt with a visibility of 3,000 m in moderate rain.

The crew stated that the second approach was stable till throttles were closed at 10 ft, for landing. On touchdown, with increase in intensity of rain accompanied with reduced visibility, the aircraft touched down right of the runway centreline and veered into the grass verge. The Captain took control of the aircraft and brought it back to the runway. The aircraft was taxied to the apron and parked at A6 parking bay.

Engines were shut down and all 64 persons onboard the aircraft, including five crew members disembarked with no injuries.

Instrument Meteorological Conditions (IMC) prevailed at the time of the incident. The incident occurred after sunset.

The investigation identified the following:

Causal Factor:

Excessive rudder application by the crew after touchdown.

Contributory Factors:

i. Reduced visibility due heavy rain on touchdown.

ii. The decision to continue approach in an unfavourable weather condition with crosswind component of 090°/15kt.

Three Safety Recommendations were made.

1.0 FACTUAL INFORMATION

1.1 History of the Flight

On 9th April 2016, at about 17:11 h, a B737-500 with nationality and registration marks 5N-BLG operated by Aero Contractors Company of Nigeria Ltd departed Port Harcourt International Airport (DNPO) on a scheduled commercial flight for Murtala Muhammed International Airport, Lagos (DNMM) with call sign NIG316. There were 64 persons onboard inclusive of five crew members.

The Captain was the Pilot Monitoring (PM) while the Co-pilot was the Pilot Flying (PF). An Instrument flight rules (IFR) flight plan was filed.

The crew had flown three previous sectors with the same aircraft and the incident flight was the fourth and last flight for the day. According to the crew, destination weather forecast was reported as visibility 8km in thunderstorms and rain.

At about 25 NM to LAG VOR, the crew observed rain on the weather radar around DNMM. Prevailing weather information reported rain overhead the station with a visibility of 3,000 m.

The aircraft was cleared for approach on runway 18L. During final approach in the rain, the crew encountered a crosswind component ranging from 38 – 45 kt on the Flight Management Computer (FMC). Based on this, the crew executed a go-around at an altitude of about 500 ft and requested for ILS approach for Runway 18R which was granted by the Tower. ATC passed weather information as: wind 090°/15 kt with a visibility of 3,000 m in moderate rain.

Information obtained from the ATC transcript indicated that the crew re-established contact with the tower at 18:13:21 h as follows: "Tower, NIG316 with you we are established 18R 10 miles". Tower replied, "NIG316 continue approach 18R preceding

traffic MD83 1.5 miles touchdown". At 18:15:56 h, Tower contacted aircraft: "NIG316 continue approach" and the crew replied, "To continue approach".

At 18:16:24 h, Tower cleared the aircraft: "NIG316 RWY 18L wind reported now 100°/15 kt check greens cleared to land" and at 18:16:34 h, aircraft replied: "Roger cleared to land RWY 18R NIG316." At 18:16:39 h, Tower acknowledged and corrected the error in the assigned runway to runway 18R. At 18:18:46 h, Tower confirmed aircraft landed: "NIG316 landing time 18 report runway vacated", at 18:18:49 h crew responded in the affirmative.

The autopilot was disengaged at radio altimeter height of about 83 ft when the aircraft was on ILS approach.

The aircraft touched down right of the runway centreline and veered further right, travelling about 540 m from the touchdown point into the grass verge. The Captain took control of the aircraft and brought it back to the runway. The aircraft was taxied to Aero Ramp.

The last communication between the aircraft and the tower was at 18:25:02 h when it acknowledged permission to cross link Alpha 4 (A4). The crew did not report the incident to ATC.

All passengers disembarked with no injury.

After engine shutdown, the crew disembarked, conducted a walk-around inspection and discovered deep cuts, dents and abrasions to the No. 1, No. 2 and No. 4 Main Landing Gear (MLG) tyres as well as No.1 Nose Gear (NG) tyre. There were also grass ingestions into the right MLG wheel well, right MLG wheel axle and right inboard flap tracks. Instrument Meteorological Conditions (IMC) prevailed at the time of the incident.

The incident occurred after sunset.

1.2 Injuries to Persons

Injuries	Crew	Passengers	Total in the aircraft	Others
Fatal	Nil	Nil	Nil	Nil
Serious	Nil	Nil	Nil	Nil
Minor	Nil	Nil	Nil	Nil
None	5	59	64	Nil
Total	5	59	64	Nil

1.3 Damage to Aircraft

The aircraft was slightly damaged.

1.4 Other Damage

Four runway edge lights were broken.

Figure 1: A broken runway edge light fixture base

Figure 2: Photo of the broken runway edge light fixture

Figure 3: Photo of the broken runway edge light fixture

1.5 Personnel Information

1.5.1 Captain (Pilot Monitoring)

Nationality:	Nigerian
Age:	54 years
License Type:	ATPL (A)
License Validity:	13th March, 2020
Medical Validity:	29th May, 2016
Aircraft Ratings:	PA23, C172, B737-200/300/400/500/NG, B727, BAC1-11, DC-9, F-27
Proficiency/Recurrent check:	19th April, 2016
Total Flight Time:	16,740 h
Hours on Type:	2,140 h
Last 90 days:	70 h
Last 28 days:	30 h
Last 24 hours:	05.20 h

1.5.2 Co-pilot (Pilot Flying)

Nationality:	Nigerian
Age:	39 years
License Type:	ATPL (A)
License Validity:	6th March, 2021
Medical Validity:	1st February, 2017

Aircraft Ratings:	B737-300/500; DHC-8
Proficiency/Recurrent Check:	22nd July, 2016
Total Flight Time:	2,018.51 h
Hours on Type:	1,060.51 h
Last 90 days:	120 h
Last 28 days:	38 h
Last 24 hours:	05:20 h

1.6 Aircraft Information

1.6.1 General Information

Aircraft Type:	B737-500
Manufacturer:	The Boeing Company, USA
Serial Number:	25387
Year of Manufacture:	1991
Airframe Time:	49,604:44 h
Cycles:	39,013

Figure 4: Photo of the aircraft after the incident

1.6.2 Engines

	Engine No. 1	**Engine No. 2**
Manufacturer	CFM International, USA	CFM International, USA
Type/Model:	CFM56-3C-1	CFM56-3C-1
Serial Number:	724850	725182
Hours:	51,561:47	51,936:15
Cycles:	359,434	266,867

1.7 Meteorological Information

Time	**1600Z**	**1700Z**	**1800Z**
Wind	350°/10 kt	210°/03 kt	090°/40 kt
Visibility	8km	8 km	5km
Weather	Thunderstorm	-TSRA	-TS/RA SQ
Cloud	Few CB 540m (NNW)	BKN 012 Few 018 CB 540 m (SD)	BKN 012 Few 018 CB 360 m
Temp/Dew	28°C/25°C	28°C/25°C	28°C/25°C
QNH	1011 hPa	1011 hPa	1014 hPa
TREND	VIS 5 km -TSRA	VIS 5 km	CB N-NW NOSIG

1.8 Aids to Navigation

The navigational aids available at the time of the incident were ILS and VOR/DME on both runways 18L and 18R. The serviceability on the day of the incident was as follows:

"LAG" VOR/DME: Serviceable

ILS/DME: Serviceable

1.9 Communications

There was effective two-way communication between the aircraft and the Control Tower as evident from the Control Tower tape/transcript. The status of the equipment on the day of the occurrence was as follows:

Lagos Radar VHF 124.7 Control: Serviceable

Lagos Control Tower VHF 118.1: Serviceable

1.10 Aerodrome Information

Lagos airport has two parallel bi-directional runways 18L/36R and 18R/36L serving both the international and the local wings of the airport.

The airport elevation is 135 ft and runway dimension of 18L/36R is 2,745 m by 45 m while 18R/36L is 3,900 m by 60 m.

Air Traffic Services, Meteorological and the Fire services are readily available to the airport users.

1.11 Flight Recorders

The aircraft was equipped with a Flight Data Recorder (FDR) and a Cockpit Voice Recorder (CVR).

1.11.1 Cockpit Voice Recorder

Manufacturer:	Honeywell Aerospace, Phoenix, Arizona, USA
Part Number:	980-6020-001
Serial Number:	2195
Date Code:	9821

The CVR was retrieved and downloaded at AIB Flight Safety Laboratory, Abuja Nigeria. The recordings for the incident flight had been overwritten.

Extract from sub-section 6.3.4.2.2 and section 11.6 of ICAO Annex 6 - Operation of Aircraft, Part I; which states respectively as follows:

> *"To preserve flight recorder records, flight recorders shall be deactivated upon completion of flight time following accident or incident. The flight recorders shall not be reactivated before their disposition as determined in accordance with Annex 13".*
>
> *"The operator shall ensure, to the extent possible, in the event the aeroplane becomes involved in an accident or incident, the preservation of all related flight recorder records and, if necessary, the associated flight recorders, and their retention in safe custody pending their disposition as determined in accordance with Annex 13".*

1.11.2 Flight Data Recorder

A copy of the raw data download (.tsc file) of the Flight Data Recorder was obtained from Aero Contractors Company of Nigeria Limited and analysed at AIB Flight Safety Laboratory Abuja Nigeria.

The following are plots of the flight data:

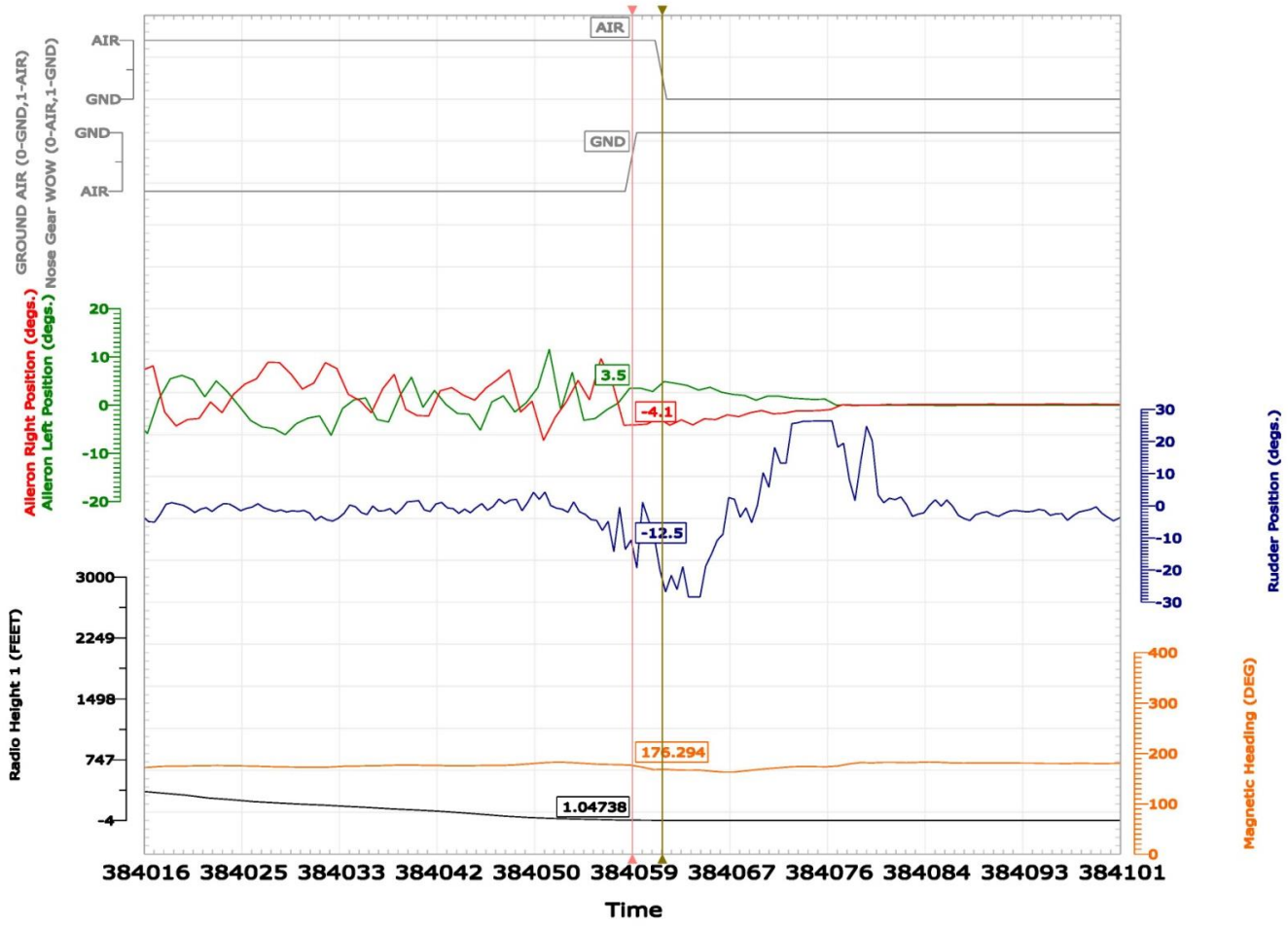

Figure 5: FDR plot 1

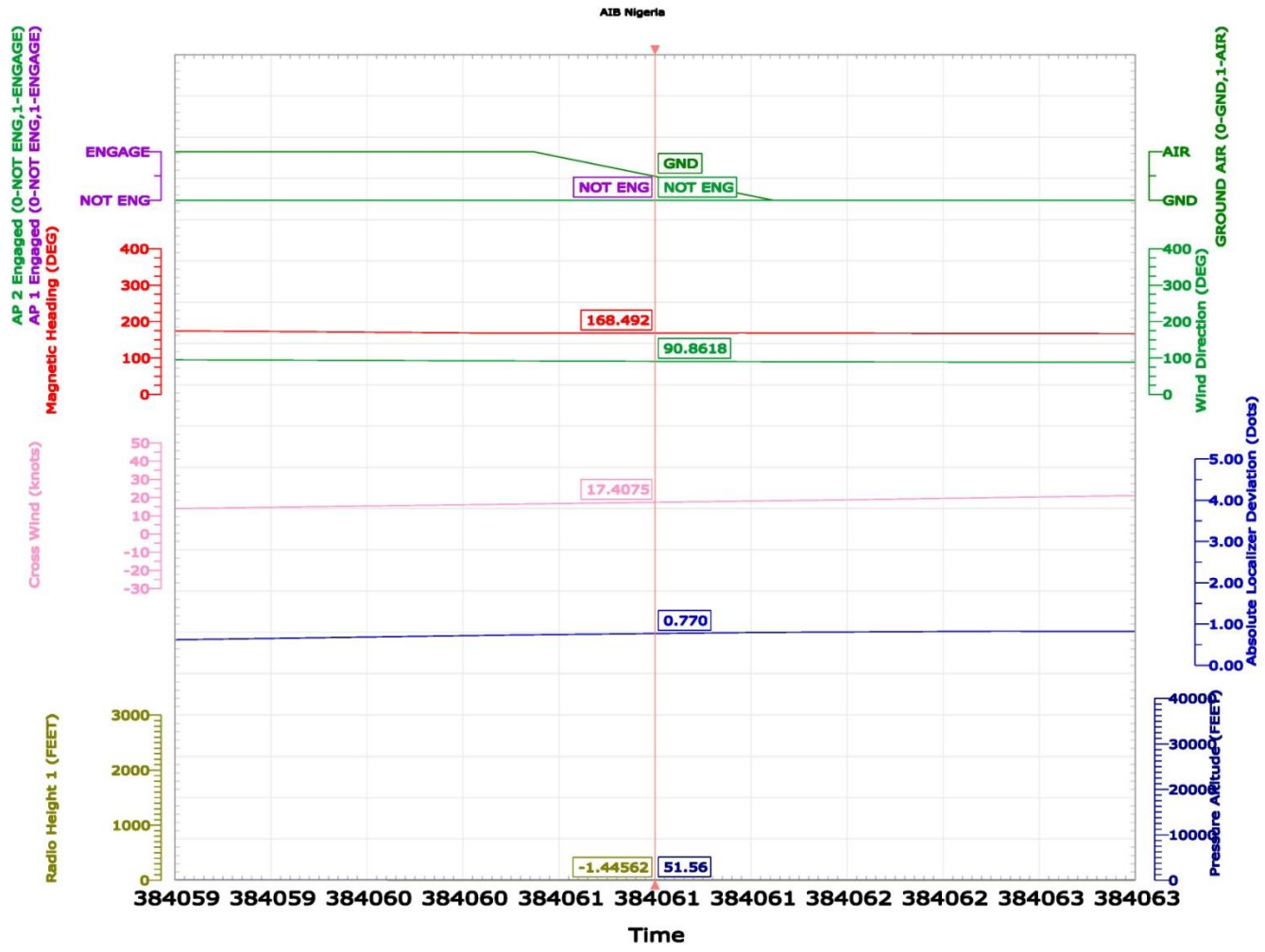

Figure 6: FDR plot 2

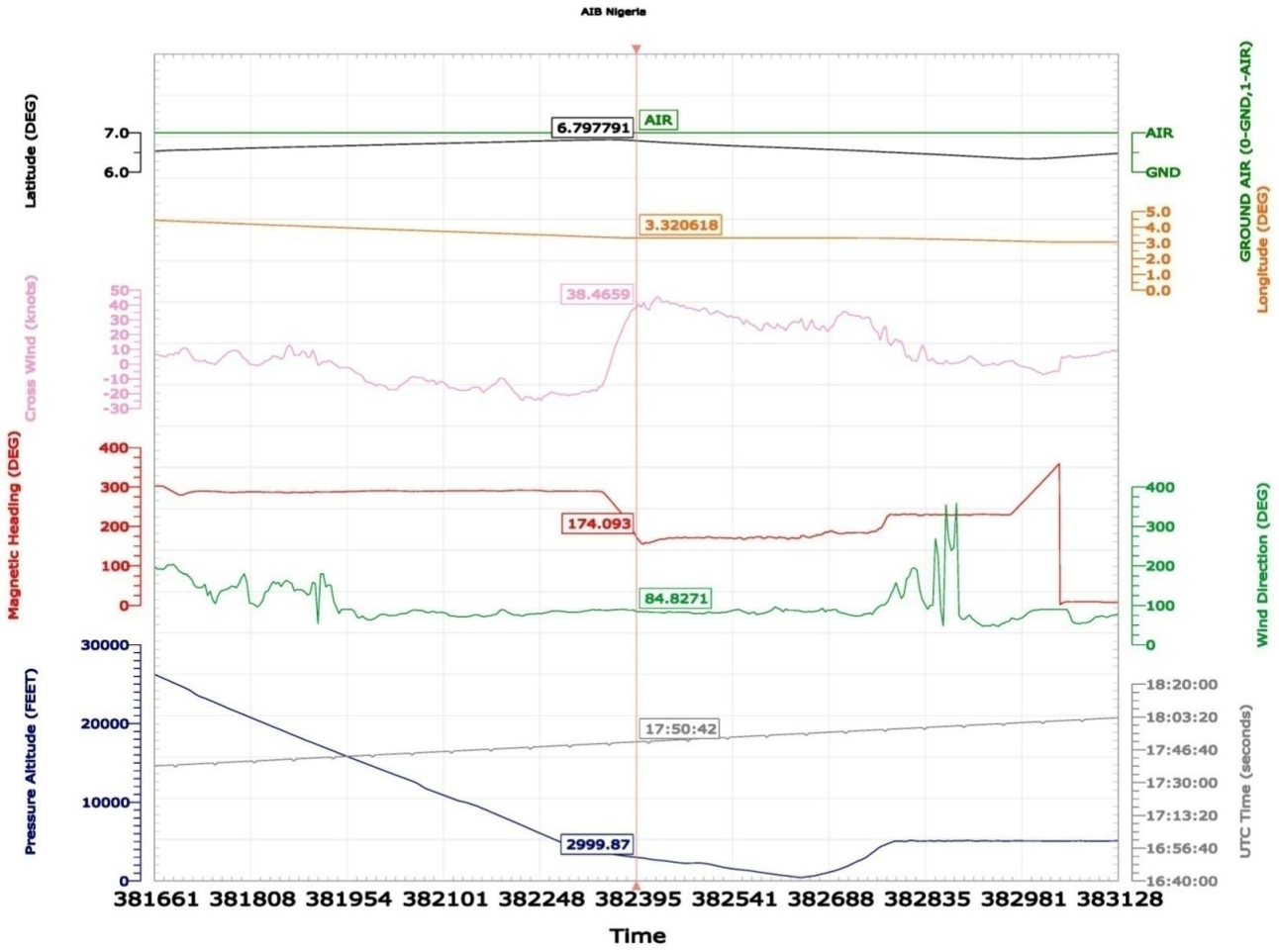

Figure 7: FDR plot 3

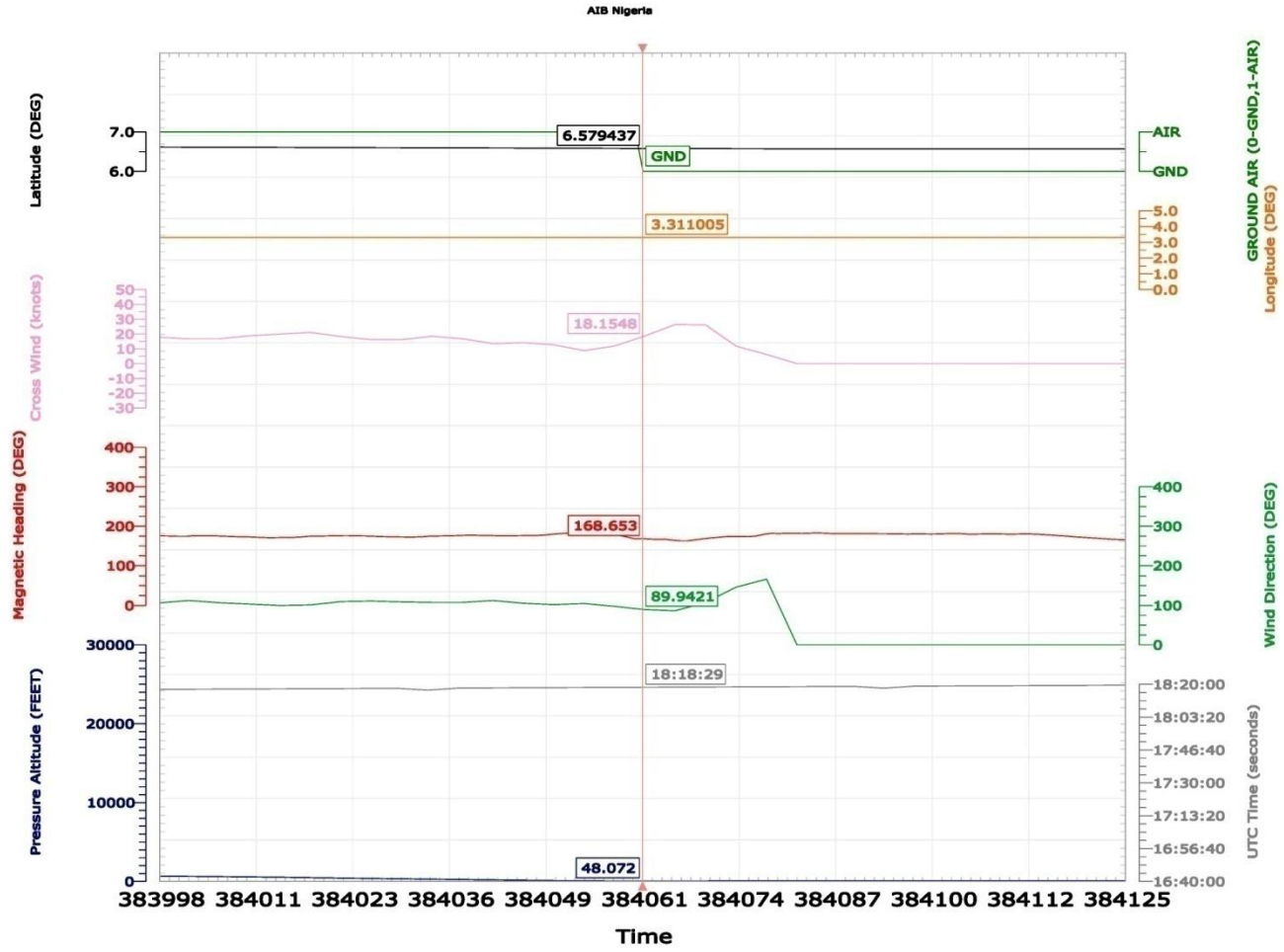

Figure 8: FDR plot 4

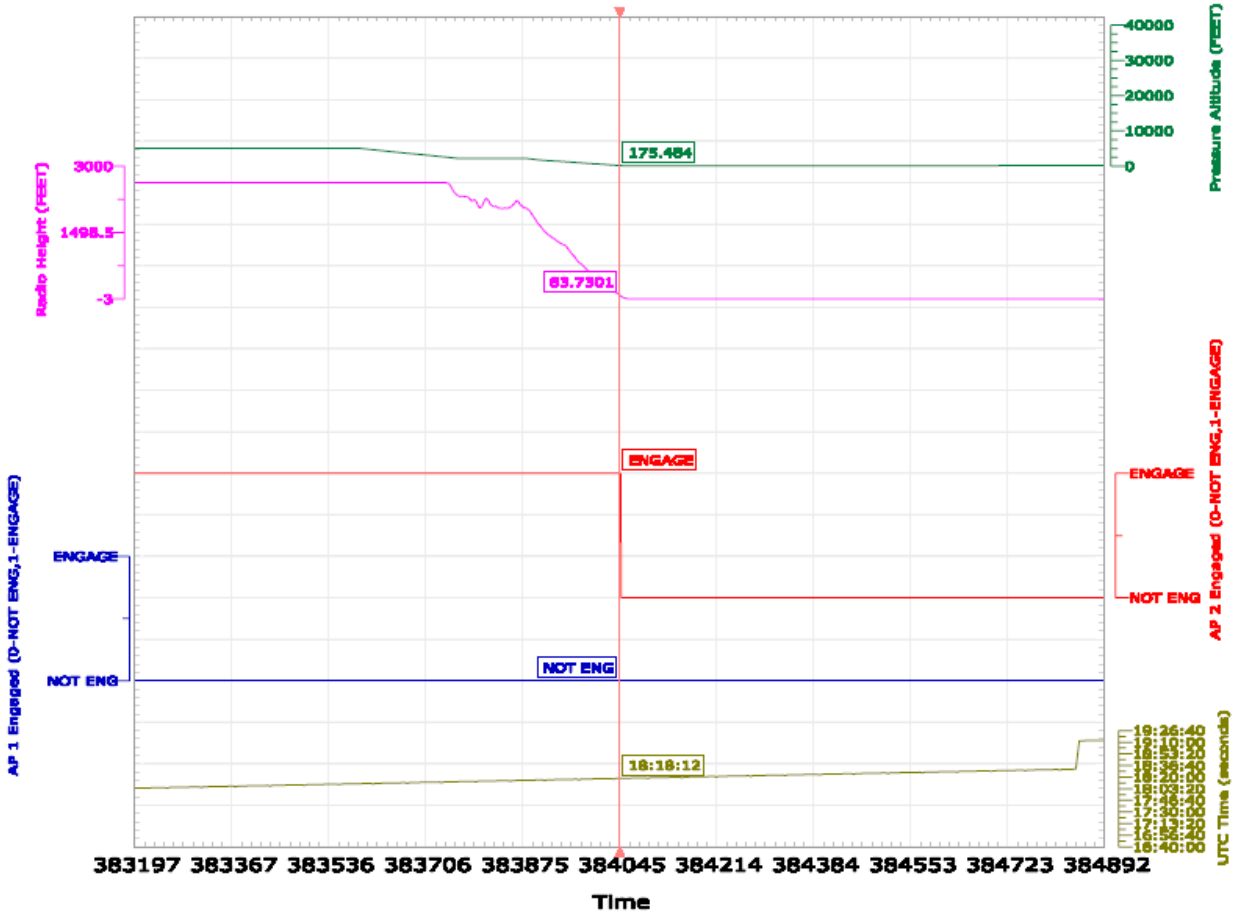

Figure 9: FDR plot 5

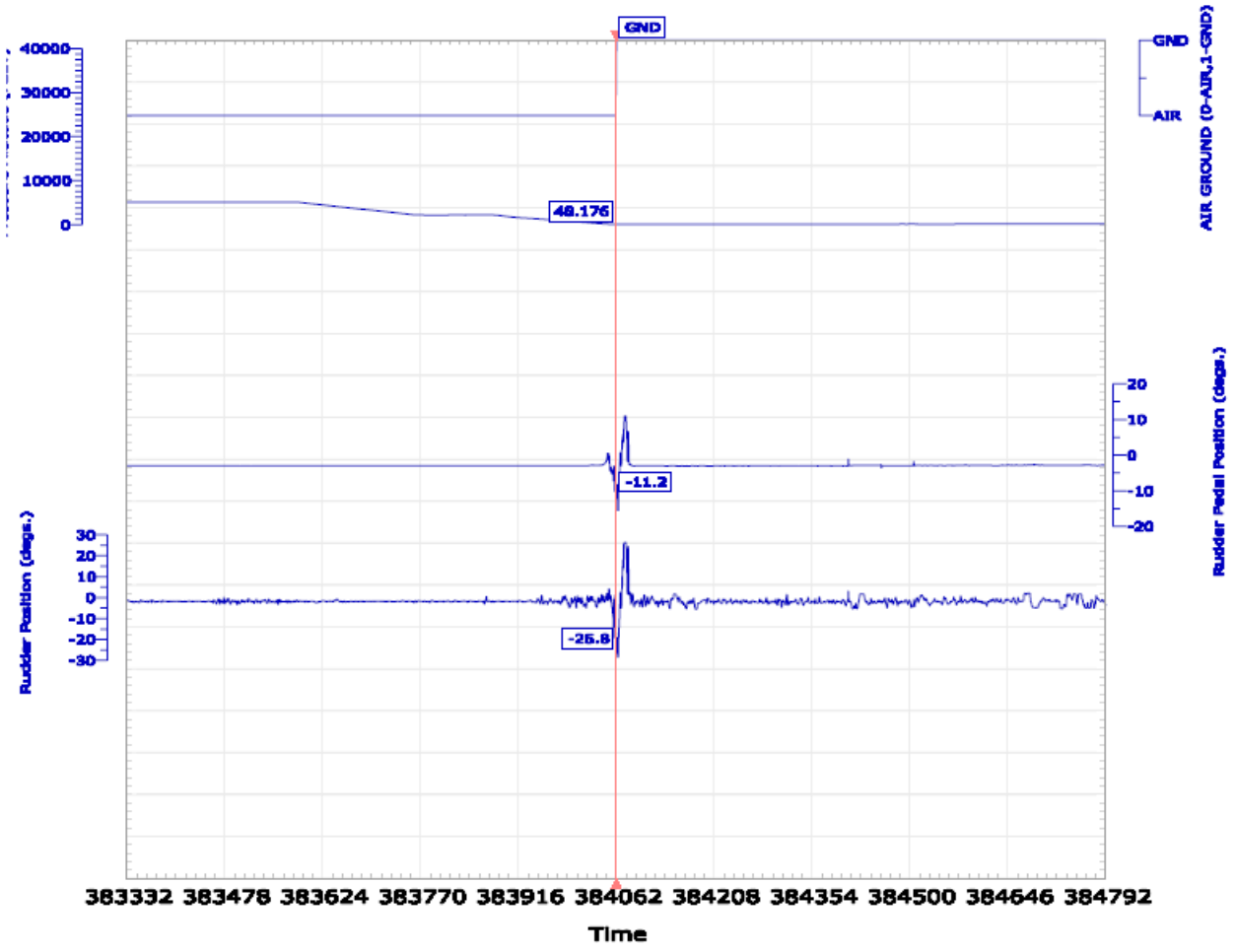

Figure 10: FDR plot 6

1.12 Wreckage and Impact Information

The aircraft touched down right of the runway centreline and veered further right travelling about 540 m from the touchdown point into the grass verge.

Post-occurrence inspection revealed deep cuts, dents and abrasions to the No. 1, No. 2 and No. 4 Main Landing Gear (MLG) tyres as well as No. 1 Nose Gear (NG) tyre. Grass was also found collected in the main wheel well, right main wheel axle and flap tracks.

Figure 11: Photo of a deep cut on No. 4 main wheel tyre

Figure 12: Photo of grass on right MLG assembly axle

Figure 13: Photo of cuts and flat spots/abrasion on No. 2 main wheel tyre

Figure 14: Photo of abrasion on No. 1 main wheel

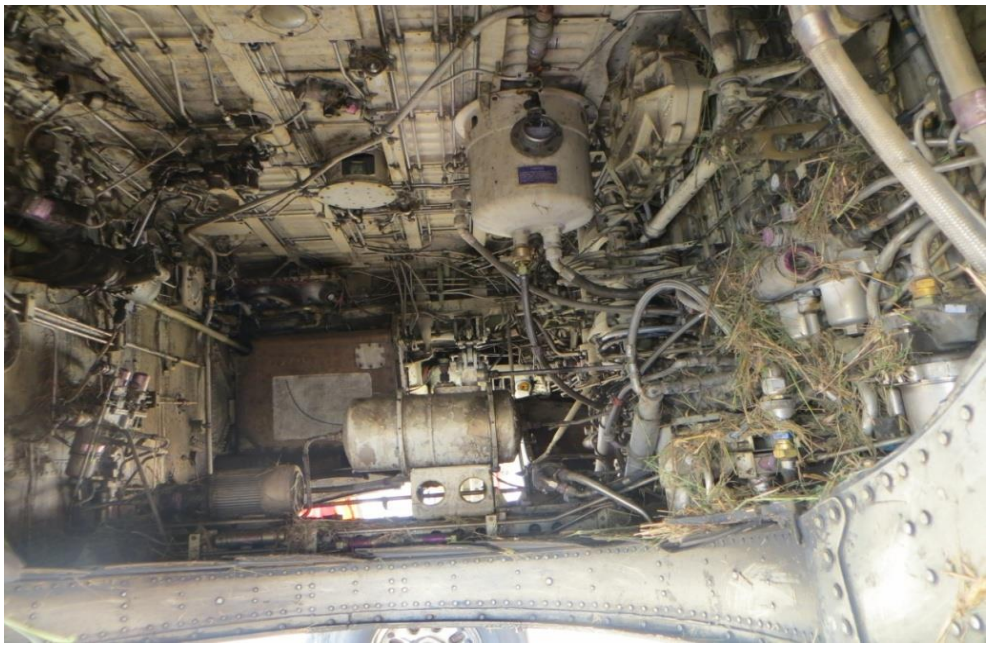

Figure 15: Photo of grass ingestion in the wheel well area

Figure 16: Photo of grass on right main landing gear attachment area

Figure 17: Photo of grass in the right inboard flap tracks

1.13 Medical and Pathological Information

No toxicological test was carried out.

1.14 Fire

There was no fire.

1.15 Survival Aspects

There was liveable volume for the passengers and crew because the aircraft structure was not compromised during the excursion. Also, the seats and the restraint system were intact.

1.16 Test and Research

Not Applicable.

1.17 Organizational and Management Information

Aero Contractors Company of Nigeria Limited (ACN) was incorporated in 1959 and operates both rotary and fixed wing services. ACN provides scheduled fixed wing passenger services to various Nigerian domestic airports and international destinations in the West African sub-region.

1.17.1 Extracts from ACN Operations Manual

1.4 AUTHORITY, DUTIES AND RESPONSIBILITIES OF THE PIC

01 All lawful commands given by the PIC for the purpose of securing the safety of the aircraft and of persons or property carried shall be obeyed by all passengers and aircrew.

RESPONSIBILITIES

The PIC shall:

a. Maintain familiarity with relevant Nigerian and International air legislation and agreed aviation practices and procedures.

c. Be responsible for the safe operation of the aircraft and safety of its occupants and cargo from the moment the cabin doors are shut for the purpose of flight, to the moment the cabin doors are open following engine shutdown.

20. Not permit:

a. a flight data recorder to be disabled, or switched off or erased during flight nor permit recorded data to be erased after flight in the event of an accident subject to mandatory reporting;

b. a cockpit voice recorder to be disabled or switched off during flight unless he believes that the recorded data, which otherwise would be erased automatically, should be preserved for incident or accident investigation nor permit recorded data to be manually erased during or after flight in the event of an incident or accident subject to mandatory reporting.

23. In an emergency situation that requires immediate decision and action, take any action he considers necessary under the circumstances. In such cases he may deviate from rules, operational procedures, and methods in the interest of safety.

1.18 Additional Information

Nil.

2.0 ANALYSIS

2.1 Conduct of the flight

At about 25 NM to LAG VOR, the crew observed rain cells annunciated on the weather radar around Lagos airport. The flight was cleared for approach to runway 18L but the crew encountered high wind speeds and rain conditions which necessitated the execution of a missed approach. The investigation believes that the decision to carry out a missed approach with the prevailing weather condition at that time was good airmanship and in the best interest of safety.

Due to the prevailing weather conditions, the crew requested for approach to land on runway 18R. From the ATC transcript, about two minutes to landing time, the aircraft was cleared to land and notified of a prevailing wind of 090°/15 kt, which the crew acknowledged. There were no reported concerns about the landing from the transcript. The crew reported that just before touchdown, visibility reduced due to heavy rain and that on landing, the aircraft drifted to the right of the runway, which became worse on deployment of thrust reversers. However, the FDR plots did not capture the thrust reverser parameters but showed inputs from the rudder pedals and corresponding rudder deflection, which was significant at touchdown point, indicating that the handling of the aircraft was contributory to the aircraft veering further right of the runway centreline.

The Boeing 737 has a maximum crosswind capability of 35 knots if the runway is perfectly dry, or 15 knots if the runway is wet (Boeing manual). On the day of the occurrence, the reported wind was 090°/15kt and the runway surface was wet.

The incident was neither reported to the ATC nor entered in the Technical Log Book as required by relevant regulations.

2.2 The Flight Recorders

The Cockpit Voice Recorder (CVR) did not reveal any information as it was retrieved on the 11th April 2016, two days after the occurrence as such, it was confirmed overwritten.

The Flight Data Recorder (FDR) raw data was transmitted to the Bureau by the operator. During the analysis of same at the AIB Flight Safety Laboratory, it was found to have captured substantial data covering four flight sectors. The previous three (3) flight sectors were normal. The fourth sector which was the incident flight revealed the attitude of the aircraft during the approach and landing phase.

From the FDR analysis, the aircraft was on localizer and afterwards carried out a missed approach due to crosswind of 38 kt and magnetic heading of 174°. Before touchdown on second approach to runway 18R, the aircraft was crabbing to the left with a magnetic heading of 176.5°. The autopilot was disengaged at radio altimeter height of about 83 ft when the aircraft was on ILS approach.

At about 18:18 h, the aircraft touched down right of the runway centreline and veered further right travelling about 540 m from the touchdown point into the grass verge.

The FDR plots indicate that the autopilot disengagement and touchdown occurred within seconds at 18:18 h (making the approach resemble an "auto land / approach" gone wrong).

The FDR plots also showed that the PF applied the rudder pedals prior to touchdown - the PF began a right rudder command input, likely to initiate a de-crab[1] manoeuvre. Shortly after touchdown the PF's right rudder command reached 11.2 degrees to the right of the datum with an associated deflection of 25.8 degrees of the aircraft rudder

[1] De-crab manoeuvre is executed moments before touchdown to align the aircraft heading with the runway centreline.

tail plane to the right which corresponds to the aircraft veering to the right of the runway centreline and excursed into the grass verge.

3.0 CONCLUSIONS

3.1 Findings

1. Both pilots were qualified and certified to fly the aircraft.
2. The Co-pilot was the Pilot Flying while the Captain was the Pilot Monitoring.
3. The aircraft was airworthy at the time of the incident.
4. The crew carried out a missed approach on runway 18L due weather.
5. The aircraft touched down right of the runway centreline and veered further right of the runway, travelling about 540 m from the touchdown point into the grass verge.
6. The crew did not report the incident to the ATC.
7. Four right runway edge lights were broken.
8. There were cuts and abrasions on No. 1 Nose wheel tyre, Left Main wheel tyres Right Main wheel tyres.
9. Grass was found in the right main wheel well.
10. Grass was found in right spoilers and flap tracks.
11. One of the runway cable trenches was destroyed.
12. There was rain at the time of the incident.
13. The Cockpit Voice Recorder (CVR) recordings of the occurrence were overwritten.

3.2 Causal Factor

Excessive rudder application by the crew after touchdown.

3.3 Contributory Factors

i. Reduced visibility due heavy rain on the runway.

ii. The decision to continue approach in an unfavourable weather condition with crosswind component of 090°/15kt.

4.0 SAFETY RECOMMENDATIONS

4.1 Safety Recommendation 2020-023

Aero Contractors Company of Nigeria Limited should lay more emphasis during flight crew simulator trainings, on the effects of excessive rudder application at high speeds during landing roll, particularly on wet/contaminated runways.

4.2 Safety Recommendation 2020-024

Aero Contractors' management should sensitise their crew members on the necessity of reporting notifiable occurrences.

4.3 Safety Recommendation 2020-025

NCAA should ensure that all airline operators review their SOPs to include procedure for isolating power to the cockpit voice recorder to preserve its contents from being overwritten, in the event of any reportable occurrence.

SAFETY ACTIONS

The recent trend observed by AIB during investigation of occurrences was that CVRs had been continuously overwritten on receipt from the aircraft operators.

In view of this, several recommendations on this issue have been made by the Bureau necessitating the issuance of an All Operators Letter (FSG-003) dated 30th July 2019 by the Nigerian Civil Aviation Authority and addressed to all Aircraft Operators. See Appendix 1.

APPENDIX

Appendix A: Air Operators Letter (FSG 003)

NCAA

NIGERIAN CIVIL AVIATION AUTHORITY

P.M.B. 21029, 21038, IKEJA-LAGOS.

ALL OPERATORS LETTER (FSG 003)

Ref: NCAA/FSG/AOL/19/003

Date: 30th July, 2019

To: All Aircraft Operators

From: Nigerian Civil Aviation Authority

Attn: Director of Flight Operations/Chief Pilot/Safety Manager

Subject: **CONTINUOUS OVERWRITING OF COCKPIT VOICE RECORDER (CVR) INFORMATION**

The purpose of this FSG All Operators Letter (AOL) is to alert all aircraft operators on the continuous overwriting of Cockpit Voice Recorder (CVR) Information by their flight crew members and the necessity to ensure compliance with the appropriate Nigeria Civil Aviation Regulations (Nig. CARs) requirements.

Background

The Nigerian Civil Aviation Authority (NCAA) has noticed that airline operators' flight crew members are in the practice of continuously overwriting the CVR information. This practice makes it impossible for the Accident Investigation Bureau (AIB) to retrieve actual data to aid in its investigation as required by Paragraphs 25 and 26 of the Civil Aviation (Investigation of Air Accidents and Incidents) Regulations 2019. This action had also impeded and posed undesirable difficulty in ensuring that AIB successfully discharge its statutory mandate of investigating accidents and serious incidents.

Nig. CARs Part 7.8.1.3 (b), which is derived from the provisions of ICAO Annex 6, Section 11.6 states that, "To preserve flight recorder records, flight recorders shall be deactivated upon completion of flight time following an accident or incident. The flight recorders shall not be reactivated before their disposition as determined in accordance with the accident/incident regulations of Nigeria".

Furthermore, Nig. CARs Part 8.14.10.3 (a) requires that "The operator/owner of the aircraft, or in the case where it is leased, the lessee, shall ensure, to the extent possible, in the event the aircraft becomes involved in an accident or incident, the preservation of all related flight recorder records and, if necessary, the associated flight recorders, and their retention in safe custody pending their disposition as determined by the Accident Investigation Bureau.

The operational requirement of the flight recorders by the flight crew as detailed in Nig. CARs. Part 8.5.1.24 (b) and (c) require that "The PIC may not permit a flight data recorder or cockpit voice recorder to be disabled, switched off or erased during flight, unless necessary to preserve the data for an accident or incident investigation" and "In event of an accident or incident, the PIC shall act to preserve the recorded data for subsequent investigation upon completion of flight" respectively.

Actions Required:

All operators of aircraft with CVR installed are hereby required to:

1. Conduct in-house awareness training for their flight crews on the requirements of Nig. CARs Parts 7.8.1.3 (b), 8.14.10.3 (a) and 8.5.1.24 (b) and (c) immediately on receipt of this AOL;

2. Develop/Emphasize appropriate procedures addressing the requirements of Nig. CARs Parts 7.8.1.3 (b), 8.14.10.3 (a) and 8.5.1.24 (b) and (c) and incorporate same in their respective Operations Manual. This amendment must be submitted to the Authority for review, acceptance and approval within thirty (30) days from the date of issue of this AOL. These procedures must form part of the contents of the Indoctrination training for flight crew members; and

3. Ensure continuous compliance with the requirements of the Nig. CARs on the preservation of flight recorder records.

The Authority will apply its enforcement processes, where non-compliances to the requirements of the Nig. CARs or non-conformance to the operator's approved procedures have been noticed.

Please, comply accordingly.

Director, Operations and Training
For: Director General.