



**PRELIMINARY REPORT ON SERIOUS INCIDENT INVOLVING AN EMBRAER ERJ 145 AIRCRAFT OPERATED BY UNITED NIGERIA AIRLINES WITH NATIONALITY AND REGISTRATION MARKS 5N-BWY WHICH OCCURRED ON RUNWAY 18L MURTALA MUHAMMED AIRPORT, LAGOS ON 8TH SEPTEMBER, 2023**

<b>Registered Operator:</b>	United Nigeria Airlines Limited
<b>Aircraft Type and Model:</b>	Embraer ERJ 145LR
<b>Manufacturer:</b>	Yabora Industria Aeronautica, S.A.
<b>Date of Manufacture:</b>	January, 2002
<b>Nationality and Registration Marks:</b>	5N-BWY
<b>Serial Number:</b>	145622
<b>Location:</b>	Runway 18L/36R, End Safety Area, of Murtala Muhammed Airport, Lagos 6°36'03"N 3°19'39"E
<b>Date and Time:</b>	8th September, 2023 at about 19:35 h <i>All times in this report are local time (UTC+1) unless otherwise stated</i>

## **INTRODUCTION**

Nigerian Safety Investigation Bureau (NSIB) formerly known as Accident Investigation Bureau (AIB) was notified by Federal Airports Authority of Nigeria (FAAN) of this occurrence via phone call on the 8th September 2023. NSIB contacted the operator and subsequently, investigators were dispatched same day to the incident site, where the aircraft was stuck in grass verge.



The Nigerian Safety Investigation Bureau commenced investigation into the circumstances of the occurrence under the provisions of Civil Aviation (Investigation of Air Accidents and Incidents) Regulations 2023 and Annex 13 to the Convention on International Civil Aviation.

The purpose of this preliminary report is to provide details of initial facts, discussions and findings surrounding the occurrence; it includes information gathered from witness accounts/statements, flight recorders, Air Traffic Control (ATC) recordings, weather reports and preliminary inspection of the aircraft.

**The investigation is ongoing.**



## **1.0 FACTUAL INFORMATION**

### **1.1 History of the flight**

On 8th September 2023 at 19:35 h, an Embraer ERJ 145 with nationality and registration marks 5N-BWY, operated by United Nigeria Airlines Company Limited as NUA0513 departed Sam Mbakwe International Cargo Airport (DNIM), Owerri for Murtala Muhammed Airport (DNMM), Lagos. On board were 50 persons inclusive of 4 flight crew with fuel endurance of 2 hours, 30 minutes. The Pilot was the Pilot Flying (PF) while the Co-pilot was Pilot Monitoring (PM).

The Pilot stated during post-occurrence interview, that in preparation for the flight out of DNIM, the METAR on the flight release DNMM 1700UTC was; Wind 240°/09 kt, Visibility 10 km, NIL weather, Cloud scattered at 360 m, Few CB 600 m, Temperature and Dew point 28/25°C, QNH 1012, Trend NOSIG. He further stated that the weather was discussed with his Co-pilot and decided to depart DNIM. Asaba Airport (DNAS) was the alternate airport.

At about 18:30 h, aircraft was off block.

At about 18:48 h, NUA0513 departed DNIM and was airborne.

According to the crew, "on approach LOS, on the weather Radar, the system was approaching LOS, but ATIS did not change". The pilot stated, "I reckoned the weather system was high cumulonimbus and LOS was clear". On contact Lagos Control, aircraft was cleared for an ILS approach to runway 18L. There was moderate to heavy rain during approach and landing. The pilot stated that "although we were visual to the runway at about 300 ft AGL (100 ft above decision altitude, we continued the approach)."

At about 19:32 h, landing clearance was issued to NUA0513. The pilot of preceding landing traffic (APK7183) informed NUA0513 she experienced a tail wind of about 9 knots and the rain was heavy, NUA0513 acknowledged. The reported weather; visibility of 5 km in light rain and thunderstorm.



At about 19:33 h, NUA0513 was observed by ATC to have touched down at the middle of runway 18L. According to the crew, there was water on the runway surface, “the aircraft started skidding to the right and tried to keep on the runway, tried to stop the airplane but unable to, until we overran the runway at the end of the runway”. He further stated that, “the aircraft kept skidding until we passed the clearway and eventually stopped on the grass.”

At 19:36 h, Tower requested details of the flight from the pilot of the NUA0513, the pilot reported overrunning the runway. Crash alarm Bell sounded immediately. MMFO2, MMFO3 were informed. Runway 18L was closed.

At 19:49 h, MMF01 reported they were with the aircraft.

At 20:13 h, MMF01 reported that all passengers had disembarked without injury.

The incident occurred at night.

## 1.2 Injuries to persons

<b>Injuries</b>	<b>Crew</b>	<b>Passengers</b>	<b>Total in the aircraft</b>	<b>Others</b>
<b>Fatal</b>	Nil	Nil	Nil	Nil
<b>Serious</b>	Nil	Nil	Nil	Nil
<b>Minor</b>	Nil	Nil	Nil	Nil
<b>None</b>	4	46	50	Nil
<b>Total</b>	4	46	50	Nil

## 1.3 Damage to aircraft

The aircraft was slightly damaged.



## 1.4 Other damage

Nil.

## 1.5 Personnel information

### 1.5.1 Pilot (Pilot Flying)

Nationality:	Nigerian
Age:	63 years
Licence type:	Airline Transport Pilot Licence (A)
Licence:	Valid till 2nd February 2024
Aircraft ratings:	Aeroplane Single engine/Multi engine PA-23, C-172, F-100, EMB-135/145, DC-9, DHC 6 (Twin Otter), B727-200, MD-80, MD-80/83
Medical certificate:	Valid till 2nd February 2024
Simulator:	Valid till 21st November 2023
Instrument rating:	Valid till 21st May 2024
Proficiency check:	30th June 2023
Total flying time:	13,971:35 h
Total on type:	1,574:15 h
Total on type (PIC):	1,574:15 h
Last 90 days:	267:35 h
Last 28 days:	68:50 h
Last 24 hours:	Nil

### 1.5.2 Co-pilot (Pilot Monitoring)

Nationality:	Nigerian
Age:	39 years
Licence type:	Commercial Pilot Licence (Aeroplane)
Licence validity:	Valid till 15th February 2024



Aircraft ratings:	Aeroplane Single-engine, Multi engine, EMB-135/145
Medical certificate:	Valid till 15th February 2024
Simulator:	Valid till 28th January 2024
Instrument rating:	Valid till 28th July 2024
Proficiency check:	18th November 2023
Total flying time:	615:6 h
Total on type:	331:5 h
Last 90 days:	
Last 28 days:	63:8 h
Last 24 hours:	Nil

### **1.5.3 Engineer**

Nationality:	Ghanaian
Age:	60 years
Licence validity:	Valid till 22nd December 2023
Aircraft ratings:	EMB-135/145

### **1.5.4 Purser**

Nationality:	Nigerian
Age:	38 years
Licence type:	Cabin crew
Licence validity	1st February 2024
Aircraft ratings:	EMB-135/145, A-320



## 1.6 General Information

### 1.6.1 Aircraft Information

Type:	EMB-145
Manufacturer:	Yabora Industria Aeronautics
Date of manufacture:	January 2002
Serial no:	145622
Registered operator:	United Nigeria Airlines Company Ltd.
Registration number:	5N-BWY
Certificate of airworthiness:	Valid till 8th December 2023
Certificate of insurance:	Valid till 11th November 2023
Certificate of registration:	Issued 6th April 2022
Noise certificate:	Issued 9th November 2020
Airframe time:	43,541.37 h
Cycles since new (CSN):	35,837

### 1.6.2 Engines

#### No. 1:

Engine model:	AE3007AIP
Manufacturer:	Rolls Royce
Year of manufacture:	19th December, 1999
Serial number:	CAE-311333
Time since new:	33,578.05h
Cycles since new:	27,953

#### No. 2:

Engine model:	AE3007AIP
Manufacturer:	Rolls Royce
Year of manufacture:	7th October, 2001
Serial number:	CAE-312037



Time since new: 39,896.16 h  
Cycles since new: 33,278

Fuel type used: Jet A-1

## 1.7 Meteorological Information

DNMM (METAR)

**Time: 1700UTC**

Wind: 240/09kts

Visibility: 10 km

Weather: Nil

Cloud: SCT 1300 ft FEW 020CB

Temperature: 27/24 °C

QNH: 1012hPa

Trend: TEMPO 5000m –TSRA CB NW-E

**Time: 1800UTC**

Wind: 310/06kts

Visibility: 10 km

Weather: Thunderstorm

Cloud: SCT 011 FEW 020 CB

Temperature: 27/24 °C

QNH: 1012hPa

Trend: TEMPO 5000M –TSRA CB NW-E

**Time: 1900UTC**

Wind: 310/12G25Kts

Visibility: 2500 km

Weather: -TSRA





Cloud: BKN 007 FEW 017CB  
Temperature: 23/23 °C  
QNH: 1014hPa  
Trend: TEMPO 1500m CB NW-E

### **1.8 Aids to Navigation**

VHF 113.7MHz "LAG" DVOR/DME – "Serviceable"

VHF 110.3MHz "ILA" ILS/DME RWY 18L – "Serviceable"

VHF 108.1MHz "ILB" ILS/DME RWY 18R – "Serviceable"

### **1.9 Communications**

There was effective two-way communication between the crew and Air Traffic Control.

### **1.10 Aerodrome Information**

The MMA has two bi-directional runways - RWY 18L/36R, 9006ft (2745m) and 18R/36L, 12,795ft (3900m). It is located on an Elevation of 135ft with a Coordinate of N06° 34'43.1298", E03° 19'.12'.

There are two VORs and one NDB stations in MMA Lagos. One is aligned with the centerline of the RWY 18L (113.7MHz LAG), NDB is also available on this runway (336MHz LA), while the second VOR is aligned with the centerline of RWY 36L (112.9MHz LOS). There are also two ILS/DME installed on RWY 18L (110.3MHz ILA) and 18R (108.1MHz ILB) respectively. The runway surfaces are asphalt coated. The ICAO designated Code is DNMM/LOS.



### **1.11 Flight Recorders**

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

#### **Cockpit Voice Recorder**

Model: SSCVR  
Part Number: 980-6022-001  
Serial Number: CVR120-05228  
Manufacturer: Honeywell

#### **Flight Data Recorder**

Model: SSFDR  
Part Number: 980-4700-042  
Serial Number: SSFDR-08855  
Manufacturer: Honeywell

The Cockpit Voice Recorder (CVR) and the Flight Data Recorder (FDR) were successfully downloaded at the Nigerian Safety Investigation Bureau's Transportation Safety laboratory in Abuja.

### **1.12 Wreckage and impact information**

ATC observed the aircraft touching down deep into the runway 18L, continuing into, and veering left on entering the grass verge, as evident from witness marks on the clearway area, and coming to a stop at the runway end safety area.



### **1.13 Medical and pathological information**

Toxicological tests were conducted on the crew. The test result for the Pilot was positive for a psychoactive substance while that of the Co-pilot was negative.

### **1.14 Fire**

There was no fire.

### **1.15 Survival aspect**

The occurrence was survivable in that the passenger restraint system (seat belts and shoulder harnesses) were intact and there was liveable volume for the occupants.

## **Initial Findings**

1. The flight crew were licensed and qualified to conduct the flight.
2. The aircraft had a valid Certificate of Airworthiness.
3. A post-incident inspection of the aircraft showed damage to the no 1 tyre.
4. The CVR and FDR were recovered in good condition and recordings were intact after the occurrence.
5. Tower observed NUA0513 landed about the midpoint of runway 18L.
6. NUA0513 during landing roll, exited runway 18L and travelled a further distance of about 260 m into the grass verge.
7. The pilot of preceding landing traffic (APK7183) informed NUA0513 that she experienced a tail wind of about 9 knots and the rain was heavy.
8. The aircraft got stuck in the grass verge at a distance of about 1,860 m after exiting runway 18L.
9. Passengers disembarked without any injury.
10. At 19:36 h, ATC activated the crash alarm bell.



11. The Aerodrome Rescue and Fire Fighting Services (ARFSS) moved to the site immediately after the crash alarm bell was activated.
12. Runway 18L was closed to traffic.

### **Investigative action**

1. To transcribe the CVR and analyse the FDR plot.
2. Analysis of the cause of the tyre burst.















