



AIB BULLETIN

AIRPEACE/2017/04/20-001

Accident Investigation Bureau

**Report on the ground collision incident involving Air
Peace Airlines Limited aircraft Boeing 737-500,
Registration 5N-BQR and Boeing 737-300,
Registration 5N-BQP which occurred close to Bay 4
of the apron at the General Aviation Terminal
of Murtala Muhammed Airport, Ikeja, Lagos
On 20th April, 2017**

This report was produced by the Accident Investigation Bureau, Murtala Muhammed International Airport, Ikeja, Lagos. The report is based upon the investigation carried out by Accident Investigation Bureau, in accordance with, Nigerian Civil Aviation Act 2006, and Civil Aviation (Investigation of Air Accidents and Incidents) Regulations.

INCIDENT

Aircraft Type and Registration:	<ul style="list-style-type: none"> i) Boeing 737-500, 5N-BQR ii) Boeing 737-300, 5N-BQP
No & Type of Engines:	<ul style="list-style-type: none"> i) 2 CFM 56-3C-1 Turbofan engines ii) 2 CFM 56-3C-1 Turbofan engines
Year of Manufacture:	<ul style="list-style-type: none"> i) 1993 ii) 1997
Registered Owners and Operators:	Air Peace Airlines Nigeria Limited
Place of Incident:	Close to Bay 4 of the Apron
Date and Time:	20 th of April, 2017 at 0633hrs
Location:	General Aviation Terminal, Murtala Muhammed Airport, Ikeja, Lagos.
Type of Flight:	Commercial Air Transport (Passenger)
Persons on Board:	<ul style="list-style-type: none"> i) Crew – 5 Passenger – None ii) Crew – None Passenger – None
Injuries:	<ul style="list-style-type: none"> i) Crew – None Passenger – None ii) Crew – None Passenger – None
Nature of Damage:	<ul style="list-style-type: none"> i) Left winglet tip damage ii) Left horizontal stabilizer leading edge and skin damage
Captain's Licence:	<ul style="list-style-type: none"> i) Airline Transport Pilot's Licence ii) None
Captain's Age:	<ul style="list-style-type: none"> i) 34 years ii) None
Captain's Flying Experience:	<ul style="list-style-type: none"> i) 6,600 hours (800 hours on type) ii) None
Type of Fuel used:	Jet A1

SYNOPSIS

The ground collision incident occurred between two aircraft belonging to Air Peace Airlines: a Boeing 737-500 with registration 5N-BQR and a stationary Boeing 737-300 with registration 5N-BQP. 5N-BQR was attempting to taxi between 5N-BQP and a Boeing 737-700 aircraft with registration 5N-MJJ belonging to Arik Airlines Nigeria Limited, which was boarding passengers at Bay 5 of the "Domestic Terminal 1 (DT1)" apron at the time of the incident.

Various factors contributed to the incident: the decision of the Captain to reposition the aircraft without requesting for a push-back, maneuvering the aircraft without the aid of Marshalls and instead relying on the company's engineers who are inexperienced wing walkers; the decision of the crew to taxi the aircraft without properly assessing the maneuverability of the aircraft at the parking bay; the non-availability of proper apron markings and Marshalls; the presence of cautionary cones at strategic areas where repair work on the apron was awaiting cure.

The limited maneuvering space between 5N-BQP and 5N-MJJ also contributed to the incident.

Four Safety Recommendations were made.

History of the Event

On 20th April 2017 at 0633hrs, Boeing 737-500 and Boeing 737-300 aircraft belonging to Air Peace Airlines Nigeria Limited with registration numbers 5N-BQR and 5N-BQP respectively were involved in a ground collision. There were five crew members on board 5N-BQR.

The crew positioned to the aircraft 5N-BQR at about 0600hrs and the Captain did a walk-around while the First Officer carried out the pre-flight checks on-board the aircraft. The Captain during walk-around, assessed the parking bay and observed that 5N-BQP was parked in an adjacent position which would reduce the maneuvering space available to 5N-BQR. 5N-BQR had been parked overnight between 5N-BQP and a B737-700 with registration 5N-MJJ belonging to Arik Airlines Nigeria Limited, parked at Bay 5 of the "Domestic Terminal 1 (DT1)"

apron. Also, there was repair work on Bay 4 of the apron and cautionary cones were placed around the patched areas.

5N-BQP and 5N-BQR were prepared as scheduled flights; flight 7154 LOS-QOW for departure at 0630hrs and flight 7750 LOS-ACC for departure at 0720hrs respectively.

The crew after the assessment requested the assistance of their ground engineers for wing walking off the aircraft from the parking bay.

5N-BQR requested start-up and taxi clearance to reposition to the International Apron for a flight to Accra at the scheduled departure time of 0720hrs. While taxiing out of Bay 4 of the apron, the winglet tip of 5N-BQR collided with the horizontal stabilizer of 5N-BQP.

The Crew disembarked without injury. 5N-BQP sustained damage to the left horizontal stabilizer leading edge and its skin while 5N-BQR sustained damage to its left winglet tip and strobe light.

The incident occurred in day light.

Aircraft Damage

5N-BQP sustained damage to the left horizontal stabilizer leading edge and skin while, 5N-BQR sustained damage to the tip of its left winglet and strobe light. See figures below.



Figure 1: Picture showing damage to the leading edge of horizontal stabilizer of 5N-BQP and the winglet tip of 5N-BQR

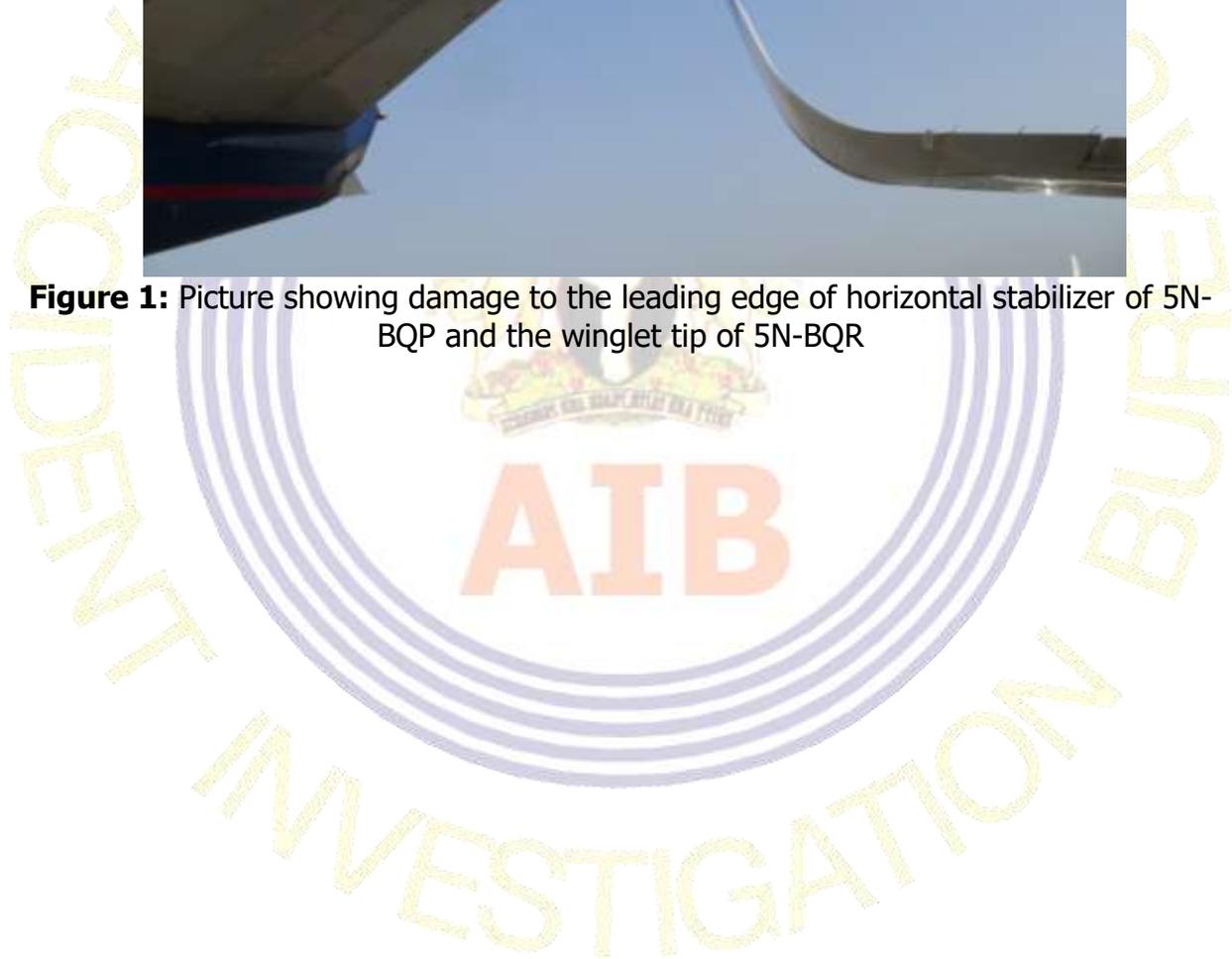




Figure 2: Picture showing damage to the leading edge and skin of horizontal stabilizer of 5N-BQP



Figure 3: From Left: Picture showing final position of 5N-BQP and 5N-BQR after the incident



Figure 4: Front view showing the final positions of 5N-BQR and 5N-BQP after the incident from the

ANALYSIS

The Incident

The crew positioned to the aircraft, 5N-BQR at about 0600hrs and the Captain did a walk-around while the First Officer carried out the pre-flight checks onboard the aircraft.

The parking position of 5N-BQP coupled with the coned-off areas on the apron, reduced the maneuvering space available. This posed the risk of collision. The crew decided to taxi the aircraft despite the circumstances, without the aid of a Marshaller. The crew should have requested for the services of a Marshaller from the Control Tower before commencing the taxi.

5N-BQR initiated the taxi with the airline's engineers as wing walkers present to marshal the aircraft. The investigation discovered that the airline engineers had

agreed with the Captain that there would be no need for a tow-tug to push-back 5N-BQR, and that it could be maneuvered with the aid of wing-walkers.

The investigation also revealed that Bay 4 had patched areas and due to space constraints, aircraft were allowed to parked nose-in for smooth disembarkation of passengers. Any aircraft that is parked nose-in as the case with 5N-BQR, should normally be pushed back out of the parking bay but that was not the case on the day of this occurrence.

The collision occurred when 5N-BQR was taxiing in between 5N-BQP and Arik Air, 5N-MJJ. At that time, 5N-BQR was avoiding 5N-MJJ that was stationary.

According to the Marshaller on duty, "after handing over to my officer in-charge [and] on getting down from office to clean-up my face I observe[d] the air peace aircraft taxi-out by airline ground engineer and I was try[ing] to stop them but my effort[s] prove[d] abortive before the incident..."

While taxiing, the inability of crew to judge wingtip positions accurately can make it difficult to decide whether sufficient clearance exists. The design of an airport layout, in particular its apron in the case GAT, and clear operational procedures can help to minimize the risk of collisions between aircraft. This is of particular importance at GAT, where limited available space and high capacity demands at the apron imposes additional pressure on the Marshalls as well as the crew.

Federal Airport Authority of Nigeria (FAAN)

FAAN is responsible among other things, for making repairs on the apron, terminal buildings, as well as the training and re-training of Marshalls.

The investigation revealed that maintenance was carried out on apron Bay 1 and 2. Cautionary instructions were put in place with three cones and for it to cure for two weeks before it can be set for use. Based on these cautionary instructions, all airline engineers were duly informed through the Marshalls and Station Managers. According to the FAAN Internal Memo, on 28th March 2017 at 0643hrs it was reported that the cautionary cones in Bay 2 were removed and investigation revealed that Air Peace Airline staff removed the cones for their aircraft, 5N-BQP and 5N-BQR to be parked at Bay 2 and subsequently on Bay 4 on the night before the incident on their own discretion even though warnings were issued to Air Peace in that regard afterward. It also revealed that Air Peace

Airlines never heed to warnings of the Marshalls on duty. Subsequently, the activities of the airline were reported on 5 different occasions.

AIB investigation revealed that Marshalls are not properly trained and re-trained. It was also observed that there was no quasi Apron Control Room at the domestic terminal to oversee the activities of the 2 domestic terminals (GAT {DT1} and MM2 {DT2}) of the Murtala Muhammed Airport. If there is a quasi Apron Control Room, it will enhance good communication between airlines and the Marshalls and proper coordination with the Main Apron Control Room at the International Terminal of the Murtala Muhammed Airport.

It was also observed that FAAN has an inadequate number of Marshalls; two persons are usually scheduled for duty as against the three required, both in the Domestic Terminal (DT1 and DT2) as well as in the International Terminal (IT) of the Murtala Muhammed Airport. Also, there is a shortage of working tools for the Marshalls.

FINDINGS

The investigation revealed the following:

1. The incident occurred in day light.
2. The pilots were qualified to taxi the aircraft.
3. The aircraft was airworthy.
4. The aircraft was cleared to taxi.
5. The incident was reported to the Control Tower by the crew.
6. 5N-BQP sustained damage to the left Horizontal Stabilizer Leading Edge and multiple dents on the left Horizontal Stabilizer skin.
7. There were five crewmembers onboard the 5N-BQR at the time of the incident.
8. There was no Marshaller present at the time of start-up and the taxi of the aircraft.
9. Marshalls are not properly trained and re-trained.
10. The incident occurred close to bay 4 of the Domestic Terminal (DT1) apron.
11. There is no ramp vehicle readily available for use by Marshalls.

12. The Marshalls do not have hand-held, two-way communication set.
13. The congestion of the GAT apron is also due to parked unserviceable aircraft.
14. Apron markings are not legible.

SAFETY RECOMMENDATIONS

Safety Recommendation 2017-011

FAAN should engage more Marshalls, and ensure adequate training and re-training.

Safety Recommendation 2017-012

FAAN should establish a quasi Apron Control Room at the Domestic Terminal.

Safety Recommendation 2017-013

FAAN should provide all necessary Personal Protective Equipment and spares for Marshalls and other relevant personnel.

Safety Recommendation 2017-014

NCAA should ensure that proper regulatory oversight is carried out on operators using the GAT.

