



AIRCRAFT ACCIDENT REPORT

EMIRATES-HAK/2015/07/06/F

Accident Investigation Bureau

Report on the Serious Incident involving an Emirates Boeing 777-200 aircraft with registration mark A6-EWD and a parked Boeing 737-400 aircraft belonging to HAK Air with registration mark 5N-BOU which occurred at Murtala Muhammed Airport, Ikeja, Lagos on 6th July, 2015



A6-EWD/5N-BOU

This report was produced by the Accident Investigation Bureau (AIB), Murtala Muhammed Airport, Ikeja, Lagos.

The report is based on 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.

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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). This Authority ensures enforcement.

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GLOSSARY OF ABBREVIATIONS USED IN THIS REPORT

AFM	Aircraft Flight Manual
AIB	Accident Investigation Bureau (The Bureau)
ATC	Air Traffic Controller
ATPL	Air Transport Pilot Licence
C of A	Certificate of Airworthiness
CVR	Cockpit Voice Recorder
CSN	Cycles Since New
DME	Distance Measuring Equipment
FAAN	Federal Airport Authority of Nigeria
FDR	Flight Data Recorder
FO	First Officer
GAT	General Aviation Terminal
GCAA	General Civil Aviation Authority of the United Arab Emirates
hPa	Hectopascal
ILS	Instrument landing System
LOS	Lagos
MMA	Murtala Muhammed Airport
NAMA	Nigeria Airspace Management Agency



NCAA	Nigerian Civil Aviation Authority
NEMA	National Emergency Management Agency
NOTAMs	Notices to Airmen
PF	Pilot Flying
PM	Pilot Monitoring
QNH	Airfield Pressure corrected for mean sea level
RWY	Runway
TSN	Time Since New
TWY	Taxiway
UTC	Universal Time Coordinated
VOR	Very High Frequency Omni-directional Radio Range
Wilco	Will Comply



A6-EWD/5N-BOU

Aircraft Accident Report No.:	EMIRATES-HAK/2015/07/06/F
Registered Owners and Operators:	Emirates and HAK Air
Manufacturer:	Boeing Aircraft Company, USA
Aircraft Type and Model:	B 777-200 & B 737-400
Registration:	A6-EWD & 5N-BOU
Location:	Eastern Taxiway, close to holding point runway 18L, Murtala Muhammed Airport, Ikeja, Lagos.
Date and Time:	6 th of July, 2015 at about 21:38hrs <i>All times in this report are local time, equivalent to UTC+1, unless otherwise stated</i>

SYNOPSIS

Accident Investigation Bureau (AIB) was notified of the occurrence by NCAA at about 22:15hrs on 6th of July, 2015, investigators were dispatched to the site and investigation commenced same day. All relevant authorities were notified.

On 6th July 2015 at 20:53hrs, Emirates Flight UAE782, a Boeing 777, registration A6-EWD, scheduled passenger flight, Lagos to Dubai, with 15 crew and 285 passengers on board, called the Tower for start-up. The Tower advised that runway 18R was not available due to repair of the runway edge lights. The crew asked for when the runway would be available. The Tower reported that the time was not determined but 18L was

available. After determining the aircraft take-off performance, the crew accepted to use runway 18L. The Tower advised UAE782 that taxiing via Taxiway C for Runway 18L would be at Pilot's discretion due aircraft wing span.

After engine start, taxi clearance was granted via Taxiway F, and to report crossing Runway 18L via Link 4, then via Taxiway C to the holding point runway 18L.

However, the crew commenced the taxi and impacted a HAK Air Boeing 737-400 aircraft parked at the parking bay of the General Aviation Terminal (GAT), close to holding point runway 18L, at about 21:38hrs, damaging the rudder and the tail area of the HAK Air aircraft, while the Emirates aircraft sustained damage to its right wing tip.

The crew confirmed that they stopped the taxi as soon as they felt the impact and made calls to the appropriate authorities about the incident.

Passengers and crew disembarked normally without injuries. Fire Services and Airport Security were present.

The investigation identified the following causal and contributory factors:

Causal Factors

1. The decision to continue the taxi via Taxiway C to runway 18L after ATC had advised aircraft to proceed at "Pilot's discretion".
2. The non-adherence to Emirates Taxi policies especially in a congested area.

Contributory Factors

1. Inadequate lighting at the Apron of the General Aviation Terminal.
2. The faded markings and non-enforcement of parking regulations at the General Aviation Apron.



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3. The incorrectly parked aircraft on the remote parking area adjacent to Taxiway C

Three Safety Recommendations were made.

1.0 FACTUAL INFORMATION

1.1 History of the Flight

On 6th July 2015 at 20:53hrs, Emirates Flight UAE782, a Boeing 777, registration A6-EWD, scheduled passenger flight, Lagos to Dubai, with 15 crew and 285 passengers on board, called the Tower for start-up. The Tower replied the call at 20:54:11hrs and advised the crew at 21:03:32hrs, that runway (RWY) 18R/36L was unserviceable due to maintenance work being carried out on the runway edge lights.

The Captain was the Pilot Monitoring while the First Officer was the Pilot Flying.

The crew also requested for the serviceability of 18L/36R, which was confirmed OK. The crew confirmed "doing the numbers" (calculating the performance) on 18L since it is a shorter runway than 18R and thereafter accepted to use runway 18L.

At 21:22:38hrs, the Tower said "Be advised if you will be taxing via the Eastern TWY it will be at own discretion" and went further to state at 21:22:48hrs that "The Eastern TWY is serviceable it's due to your wing span"

The crew of UAE782 demanded to know if work was currently being done on the lighting of runway 18R and how long it would take to fix these unserviceable lights. The ATC at 21:25:02hrs said "I can't say they are still working on it the Engineers will advise us as soon as they are done", the crew copied and said "OK then".

Taxi was approved at 21:26:10hrs via interconnecting taxiway and to report crossing runway 18L at Link 4 and ATC clearance was given at 21:26:24hrs.

At 21:36:10hrs the Tower cleared UAE782 to line up and wait runway 18L. The same transmission was repeated at 21:36:19hrs. UAE 782 replied at 21:36:28hrs, "We need wing clearance on right hand side due to parked aeroplane UAE782 we will 3 minutes

before line-up". At 21:36:35hrs, Tower replied, "Report fully ready". UAE782 replied "Wilco".

At 21:37:57hrs, UAE782 called the Tower and said "Yeah, we are given the wing clearance on the right-hand side unfortunately it didn't clear the aircraft so we need the tow truck to tow us back to the apron it looks like, we might have hit the tail of an aircraft".

The crew asserted that "an airport personnel in a bright yellow vest was positioned near the wing tip and continued to give the ALL CLEAR signal". The aircraft continued the taxi until the pilot flying (First Officer) felt a sudden pull to the right and the aircraft was stopped immediately. The crew proceeded to shut down the engines and alerted the cabin crew. The Tower was then notified. Lufthansa Engineering later confirmed that the right wing tip had struck the rudder and vertical stabilizer of a parked HAK Air Boeing 737-400 with registration number, 5N-BOU. This impact moved the Boeing 737-400 aircraft about 5ft sideways and about 2ft forward causing the nose wheel to turn 90°.

The crew and passengers disembarked without any injuries. UAE782 sustained damage to the wing tip while the parked HAK Air aircraft sustained substantial damage to its rudder and tail fin.

The incident happened at night.

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	15	258	273	Nil
Total	15	258	273	Nil

1.3 Damage to Aircraft

The UAE782 Boeing 777-200 aircraft was slightly damaged while the HAK Air Boeing 737-400 aircraft was substantially damaged.

1.4 Other Damage

Nil.

1.5 Personnel Information

1.5.1 Captain (Pilot Monitoring)

Nationality: Malaysian

Gender: Male

Age: 43 years

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Licence No.:	ATPL 13191
Licence Validity:	17 th March, 2019
Aircraft Ratings:	B777, B787 (P1)
Instrument Validity:	31 st August, 2015
Proficiency Check:	31 st August, 2015
Medical Validity:	30 th June, 2016
Total Flying Experience:	15,000hrs
On Type:	8,000hrs
Last 90 days:	248hrs
Last 28 days	80hrs
Last 24 hrs	7.1hrs

1.5.2 Co-Pilot (Pilot Flying)

Nationality:	American
Gender:	Male
Age:	34 years
Licence No.:	ATPL 24219
Licence Validity:	28 th April, 2021
Aircraft Ratings:	B777 (P2)
Instrument Rating Validity:	31 st August, 2015
Proficiency Check:	31 st August, 2015
Medical Validity:	14 th February, 2016

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Total Flying Experience:	7,495hrs
On Type:	1,821hrs
Last 90 days:	176hrs
Last 28 days	67hrs
Last 24 hrs	7.1hrs

1.6 Aircraft Information

1.6.1 General Information

Manufacturer:	Boeing Aircraft Company, USA
Aircraft Type:	Boeing 777-200LR
Year of Manufacturer:	December 2008
Serial Number:	MSN 35577
Registration:	A6-EWD
Total Airframe time:	39915:25hrs
C of A Issue Date:	25 th January, 2008
Category:	Transport

1.6.2 Engines

Engine Model: General Electric GE 90-110B1L1

No. 1

Serial No.: 906990

TSN: 17,854hrs

CSN: 2972

No. 2

Serial No.: 906208

TSN: 41,433hrs

CSN: 6164

Type of Fuel Jet A1

1.7 Meteorological Information

Time: 1930 UTC

Wind: VAR/02 Kts

Visibility: 10km

Weather: NIL

Cloud: SCT 900ft, FEW 2,000ft

Temp: 26°C
QNH: 1011hPa

1.8 Aids to Navigation

The navigational aids at the time of the occurrence were serviceable except the runway edge lights on runway 18R, which were undergoing maintenance.

1.9 Communications

There was effective two-way communication between the aircraft and the ATC.

1.10 Aerodrome Information

Murtala Muhammed Airport with location indicator DNMM has two parallel runways with designations 18R/36L and 18L/36R.

Runway 18L/36R has a dimension of 2745m by 45m. The Aerodrome Reference Point is 06°34'43"N 003°19'44"E while the elevation is 138ft. Runway 18R/36L has a dimension of 3900m by 60m. Aerodrome Reference Point is 06°33'09"N 003°18'48"E while the elevation is 65ft.

The Taxiway B provides a direct access of aircraft from the international wing to the domestic wing without crossing the active runway but it had been closed for 5 years. NOTAM with references A0046/10 NOTAMR A0045/10 and A0016/11 NOTAMR A0071/11 regarding the closure, were presented to the Bureau in the course of the investigation.

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Runway 18R/36L was not in use due to maintenance of the runway lighting system at the time of the occurrence.

The incident happened in the General Aviation area of the airport. Most of the flood lights provided at the Apron of the General Aviation Terminal were unserviceable at the time of the occurrence.

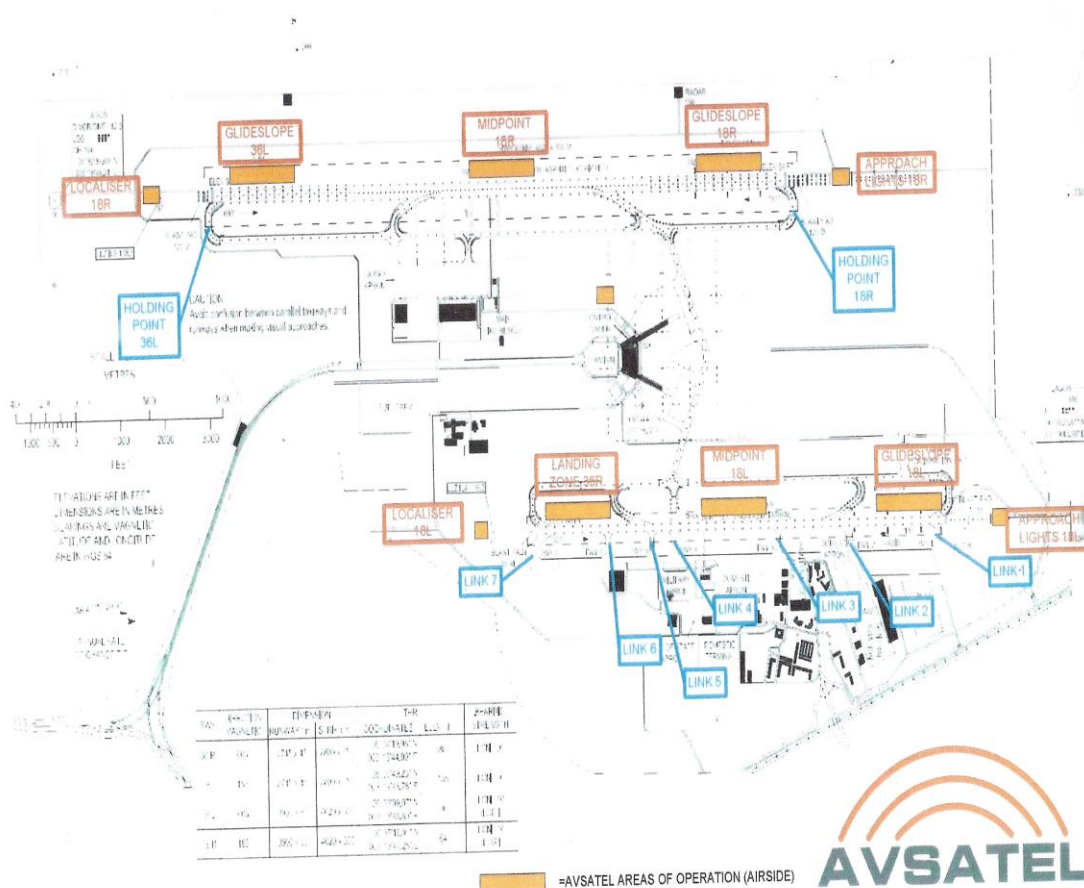


Figure 1: Layout of the aerodrome

1.11 Flight Recorders

The Emirates aircraft was fitted with Flight Data Recorder (FDR) and Cockpit Voice Recorder (CVR). The General Civil Aviation Authority (GCAA), UAE was requested by the Bureau to download the CVR.

1.12 Wreckage and Impact Information

The Emirates Airline Boeing 777-200 aircraft sustained damage to its right wing tip which struck and damaged the rudder and vertical stabilizer of the parked HAK Air Boeing 737-400. This impact moved the Boeing 737-400 aircraft about 5ft sideways and about 2ft forward causing the nose wheel to turn 90°.

At the point of impact, the nose wheel position of the Boeing 777-200 aircraft was about 8ft left of the taxiway centerline. The left main wheel outboard tyres of the aircraft were on the left edge of the taxiway and the right main wheel inboard tyres were close to the taxiway centerline.

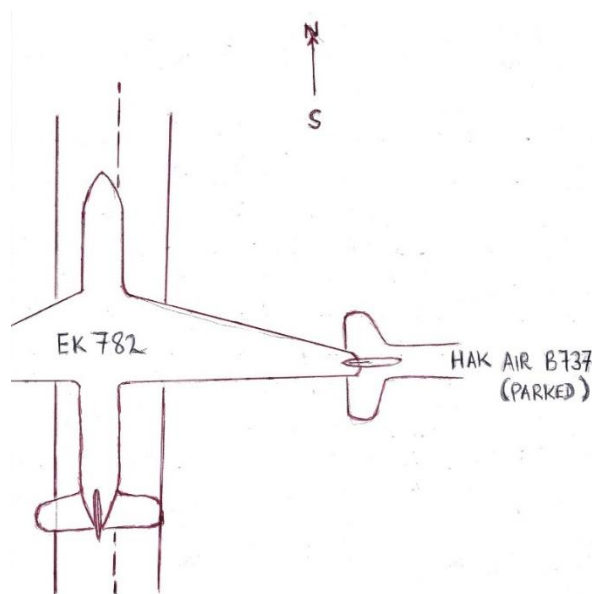


Figure 2: A sketch of the layout of the colliding aircraft

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Figure 3: A view of the damage to the Rudder and the tail section of 5N-BOU



Figure 4: A close-up view of the damage to the Rudder and the tail section of 5N-BOU

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Figure 5: Another close-up view of the damage to the rudder and the tail section of 5N-BOU



Figure 6: HAK Air Aircraft moved 5ft sideways and nose wheel turned 90°



Figure 7: HAK Air Nose wheel at 90° due to the impact with Emirates aircraft

1.13 Medical and Pathological Information

Nil.

1.14 Fire

There was no pre or post impact fire.

1.15 Survival Aspect

Not Applicable.

1.16 Tests and Research

Not Applicable.

1.17 Organizational and Management Information

1.17.1 Emirates

Emirates is an airline based in Dubai, United Arab Emirates. The airline is a subsidiary of The Emirates Group, which is wholly owned by the government of Dubai's Investment Corporation of Dubai. It is the largest airline in the Middle East, operating over 3,600 flights per week from its hub at Dubai International Airport, to more than 140 cities in 81 countries across six continents.

Emirates operates 10 flights every week into MMIA Lagos, Nigeria as at the time of this incident, mostly with wide-bodied aircraft. The airline has taxi procedures in its Ground Operations 777 Flight Crew Training Manual (June 30, 2015), Boeing 777 Flight Crew Operations Manual, Chapter OI, Section 1 and also in the Crew Threat Information publication about Lagos, Nigeria to help crew operate safely.

1.17.1.1 Emirates Taxi Procedures

Ground Operations 777 Flight Crew Training Manual. June 30, 2015

Taxi

Taxi General

Most reported runway incursions are attributed to a loss of situational awareness and not following ATC instructions. All pilots should be aware that incursions are a persistent problem and they must be proactive in preventing them during all ground operations.

The following guidelines are intended to enhance situational awareness and safety during ground operations:

Prior to Taxi

- 1. Review NOTAMS and current ATIS for any taxiway or runway closures, construction activity, or other airport risks that could affect the taxi route***
- 2. Both pilots verify that the correct airplane position is in the FMC and the EFB airport moving map, (as installed), shows correct placement*
- 3. Brief applicable items from airport diagrams and related charts to include the location of hold short lines*
- 4. Ensure both crewmembers understand the expected taxi route***
- 5. Write down the taxi clearance when received*
- 6. An airport diagram should be readily available to each crewmember during taxi.***

During Taxi

1. *Progressively follow taxi position on the airport diagram*
2. *During low visibility conditions, call out all pertinent signs to verify position*
3. *If unfamiliar with the airport, consider requesting a FOLLOW ME vehicle or progressive taxi instructions.*
4. *Use standard radio phraseology*
5. *Read back all clearances. If any crewmember is in doubt regarding the clearance, verify taxi routing with the assigned clearance or request clarification. Stop the airplane if the clearance is in doubt*
6. *If ground/obstruction clearance is in doubt, stop the airplane and verify clearance or obtain a wing-walker*
7. *Avoid distractions during critical taxi phases; plan ahead for checklist accomplishment and company communications*
8. *Consider delaying checklist accomplishment until stopped during low visibility operations*
9. *Do not allow ATC or anyone else to rush you*
10. *Verify the runway is clear (both directions) and clearance is received prior to entering a runway*
11. *Be constantly aware of the equipment, structures, and airplanes behind you when the engines are above idle thrust*
12. *Consider using the taxi light to visually indicate movement*

13. *At night use all appropriate airplane lighting*
14. *When entering any active runway ensure the exterior lights specified in the FCOM are illuminated*

Taxi Speed and Braking

To begin taxi, release brakes, smoothly increase thrust to minimum required for the airplane to roll forward, and then reduce thrust as required to maintain normal taxi speed. A turn should normally not be started until sufficient forward speed has been attained to carry the airplane through the turn at idle thrust.

The airplane may appear to be moving slower than it actually is due to the flight deck height above the ground. Consequently, the tendency may be to taxi faster than desired. This is especially true during runway turnoff after landing. The ground speed display on the flight instruments may be used to determine actual taxi speed. The appropriate taxi speed depends on turn radius and surface condition.

1.17.1.2 Operations Manual – Part A, Section 8 Page 153, Revision 10, 22-Jul-2015

Operating Procedures

Flight Procedures

Taxi

Taxi guidelines and markings may vary from aerodrome to aerodrome and may not always ensure adequate obstacle clearance, especially in congested areas.

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1. *All aircraft ground movement shall be conducted in accordance with ATC instructions and clearances.*
2. *The parking brake shall remain set until:*
 1. *Both operating crew members confirm the 'All clear' signal has been sighted; and*
 2. *Taxi clearance has been received.*
- c. *The PM shall progressively follow the aircraft's position on the applicable aerodrome ground chart and where available, on the on-board moving map.*
- d. *Whenever doubt exists regarding taxi route, clearance or safety, the aircraft shall be stopped and assistance from ATC or ground personnel sought. If necessary, progressive taxi instructions should be requested. The aircraft should never be stopped on a runway unless specifically instructed to do so.*
- e. *Commanders shall ensure the aircraft is safely positioned and manoeuvred. The effect of jet blast on adjacent aircraft, ground equipment and/or structures shall be considered.*
- f. *Flight crew shall not cross red stop bars when entering or crossing a runway unless contingency measures are in force, e.g. to cover cases where the stop bars or controls are unserviceable.*
- g. *The maximum taxi speed on surfaces not reported as slippery shall be the lesser of 30 knots, the speed specified in the fleet SOPs, or local published speed limits.*
- h. *The maximum taxi speed on surfaces reported as slippery is 10 kts.*
- i. *If considered 'safe to do so, and in the interest of minimising runway occupancy, the Commander may exceed these limits while backtracking on an active runway.*

j. The entire runway and approach shall be scanned in both directions before entering or crossing a runway. Use aircraft lighting as per fleet SOPs when entering or crossing runways.

k. It is the Commander's responsibility to ensure that a safe clearance between the aircraft, other aircraft, and ground obstacles is maintained.

1.17.1.3 Boeing 777 Flight Crew Operations Manual, Chapter OI, Section 1

Operational Information

Verbal Departure/Arrival Briefing

Introduction

The following is a list of items crews should consider when preparing the departure and arrival briefings. The list is not exhaustive and nor should it be used as a checklist for briefing. Ensure only those items of significance and relevance to the departure or arrival are briefed. Crews should consider operational threats, brief them and discuss mitigation strategies.

CHART

- 1. Taxi route, including Known runway/taxiway hot spots*
- 2. Special Notes and Cautions*

OPERATIONAL

Relevant Operational considerations such as:



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1. NOTAMs
2. Runway/taxiway conditions.



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1.17.1.4 Crew Threat Information about Lagos

25-JUN-2015

LOS-DNMIM

NIGERIA LAGOS Murtala Muhammad

C-01

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GENERAL		
AD: Destination	H24	AD ELEV 135 ft MSA 2200 ft
CAT B Reason:	ATC	
COMPANY:	NAHCO	
LOCAL TIME:	UTC+1	
CREW THREAT INFORMATION		
<p>ATC:</p> <ul style="list-style-type: none"> <input type="checkbox"/> ATC use non standard RT phraseology and the standard of spoken English is poor. <input type="checkbox"/> History of poor NOTAM service, caution advised. <input type="checkbox"/> Joint civil/military airport. <p>Approach:</p> <ul style="list-style-type: none"> <input type="checkbox"/> ILS not ground monitored, known for false LOC/GS and out of tolerance fluctuations. Whenever possible, crew shall request and conduct RNAV approaches. If an ILS (or LOC) approach must be flown, continuous monitoring of ILS guidance is essential. <input type="checkbox"/> Low platform altitude when conducting an ILS approach. <input type="checkbox"/> Be aware LAGVCR is located to the north of the airport by approximately 7 nm. <input type="checkbox"/> RWY 36L/R arrivals available daytime only. <p>Departure (Metric):</p> <ul style="list-style-type: none"> <input type="checkbox"/> Clearance often given during taxi out. <input type="checkbox"/> SID:s often not followed. Carefully check CFP against filed route. <input type="checkbox"/> Danger areas present throughout FIR GND <input type="checkbox"/> UNL. <p>Runway:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Surface runway 18R/36L is rough with the right hand PAPI on 18R u/s. <input type="checkbox"/> No centerline lighting available. <p>Ground Operation:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Request marshaller assistance in case of wing tip clearance doubt. <input type="checkbox"/> Signage frequently unclear. <input type="checkbox"/> Crews should expect to be marshaled short of the jetty, shut down the engines and be towed-in. <p>Environment:</p> <ul style="list-style-type: none"> <input type="checkbox"/> None 		

Changes: Cargo Qps Added new section.

1.17.2 HAK Air

HAK Air is an upcoming airline and as at the time of the occurrence, was undergoing Airline Operators' Certification (AOC) process. The airline has just performed a proven flight and was in the process of performing the second flight with the affected aircraft. HAK Air intends to operate Boeing 737-400 aircraft and some helicopters in its fleet.

1.17.3 Nigerian Civil Aviation Authority (NCAA)

NCAA is the regulatory body that oversees activities of all airlines/operators, personnel, service providers including airport authorities and air traffic services.

1.17.4 Federal Airport Authority of Nigeria (FAAN)

FAAN manages the airport and provides the needed infrastructure, security, fire services and any other service that enhances safety at the airport, for example, marshallers, FOLLOW-ME trucks, airport markings, parking, airport lighting, authority and passes for airside operators.

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Figure 8: Photograph showing the amount of light available to the General Aviation parking area taken at 06:30hrs



Figure 9: Photograph taken at night showing the lighting available at night



Figure 10: An enlarged view of the Lighting available at the General Aviation area taken at 06:30hrs

1.17.5 Nigerian Airspace Management Agency (NAMA)

NAMA provides the following services: Air Traffic Control Service (ATCS), Air Traffic Advisory Service, Alerting Service and Flight Information Service.

Air Traffic Control Service (ATCS), presently referred to as Air Traffic Management (ATM) is a service provided for the purpose of preventing collisions between aircraft; on the manoeuvring area, between aircraft and obstructions; and to expedite and maintain an orderly flow of air traffic. ATCS is sub-divided into Area Control Service, Approach Control Service and Aerodrome Control Service.

The areas of responsibility for Air Traffic Services fall into three general operational disciplines; Ground Control, Tower Control and Approach Control.

Ground Control is responsible for the airport "movement" areas. These include all taxiways, holding areas, and some manoeuvring areas or intersections where aircraft arrive after having left the runway or the departure gates. Efficient ground control is vital to smooth airport operations because, besides from the most important mission which is to ensure the safety of ground movements, the ground controller is responsible for optimising the order in which the aircraft are sequenced to depart at the runway threshold, and this in order to accelerate the take-off rhythm.

The Controller is in charge of the movements on the runways as well as for the air traffic in the vicinity of the airport. He clears aircraft for take-off or landing, thereby ensuring that the assigned runway is clear for the foreseen manoeuvre.

1.18 Additional Information

FAAN colour code for marshallers high-visibility vest is orange.

1.19 Useful or Effective Investigation Techniques

Nil.

2.0 ANALYSIS

2.1 The Taxi

Emirates flight UAE782 was called at 21:03:32hrs by the Air Traffic Controller (Tower) to advise the crew about the unserviceability of the edge lights of runway 18R/36L.

The Tower advised that taxi on Taxiway C was at the discretion of the crew due to the aircraft's wing span.



The picture above shows the final position of the Emirates aircraft at impact, indicating that the cockpit crew had deviated from the statutory yellow taxiway centreline. It is thus obvious that the cockpit crew had foreseen the obstruction ahead and turned sideways of the centreline to avoid it, rather than discontinuing the taxi and reporting to ATC.

The Tower's advice to taxi at own discretion was not judiciously executed by the cockpit crew.

2.2 The Crew

The crew were qualified and certified to conduct the flight. The First Officer was the Pilot Flying while the Captain was the Pilot Monitoring.

Having been advised of the risk on the taxi path, the crew should have been more careful to avoid any obstruction while taxiing. The crew also had another opportunity to re-evaluate their strategy when they noticed obstruction to the right of the taxi path.

The cockpit crew should have aborted the taxi, requested push back to Link 3 to exit the unusable taxiway, and returned to the parking gates.

The crew could also have been guided by the Emirates company policy on taxi procedures and the Crew Threat Information document.

The crew reported that "an airport personnel in a bright yellow vest was positioned near the wing tip and continued to give the ALL CLEAR signal". The Airport Authority does not position marshalls for aircraft taxiing except on request. Besides, the colour description given by the crew does not match the FAAN colour code of orange for its marshaller.

However, the marshaller on duty at the General Aviation ramp reported that he was taking stock of aircraft parked for the night, at the time of the occurrence. He explained that his attention was drawn to the aircraft (UAE782) when he heard the noise of the impact.

2.3 Federal Airports Authority of Nigeria (FAAN)

The lighting available at the General Aviation Terminal (GAT) parking area was inadequate at the time of the occurrence. The intensity of the flood lighting at the GAT apron was reduced to about one-third due to failure of some light bulbs.

As at the time of the incident, aircraft were parked without compliance with the apron markings. The markings at the General Aviation Apron were faded and parking regulations not enforced.

The crew of flight UAE 782 requested to know how long the maintenance on the runway edge lights would take to complete but the Controller on duty answered at 21:25:11hrs "I can't say they are still working on it the engineers will advise us as soon as they are done".

It is important that FAAN schedule all works/jobs and give estimate on the duration of any work/job as this will help the operators reschedule, delay or cancel their flights as may be necessary.

2.4 Nigeria Airspace Management Agency (NAMA)

NAMA is charged with the responsibility of airspace management in Nigeria. The Controller on duty on the day of the occurrence passed on the appropriate information to the crew about the closure of runway 18R/36L due to maintenance of runway edge lights. The crew were also notified of the availability of runway 18L/36R with a caution on using the eastern taxiway due to the Boeing 777 wingspan. Normally, aircraft coming from the international apron access the holding point of runway 18L via the Taxiway B. However, it had been closed for over five years and NOTAM was issued to that effect.



A6-EWD/5N-BOU

The Controller could have demanded an approximate timeframe for the maintenance work on the edge lights of runway 18R, from FAAN. This would have aided the crew in making a more informed decision.

Controllers are supposed to help crew to operate safely. Their assertiveness sometimes can assist the flight crew to take appropriate decisions. Although the final decision rests with the crew, they should be presented with all available options for the intended manoeuvre. Controllers also know the airport environment better than the foreign pilots.

3.0 CONCLUSION

3.1 Findings

- 3.1.1 The incident occurred at night.
- 3.1.2 The aircraft had a valid Certificate of Airworthiness.
- 3.1.3 The pilots were qualified and certified to conduct the flight.
- 3.1.4 The Co-pilot was the Pilot Flying.
- 3.1.5 The aircraft was cleared with a caution on the eastern taxiway RWY 18L/36R.
- 3.1.6 Engines were shut down, and passengers were disembarked on the taxiway without injuries.
- 3.1.7 The crew did not request the assistance of a FOLLOW-ME truck while taxiing.
- 3.1.8 The lighting condition at the General Aviation apron was inadequate at the time of the incident.
- 3.1.9 The UAE 782 nose wheels position was found at about 8ft left of the taxiway centerline after the occurrence.
- 3.1.10 The right wing tip of the Emirates Airline Boeing 777-200 aircraft impacted the rudder and vertical stabilizer of the parked HAK Air Boeing 737-400.
- 3.1.11 The HAK Air aircraft was moved about 2ft forward, the nose wheel moved about 5ft sideways and the nose wheel turned 90° as a result of the impact.
- 3.1.12 The Taxiway B linking the International wing apron with runway 18L had been closed for about five years and NOTAM was issued.

3.2 Causal Factor

1. The decision to continue the taxi via Taxiway C to runway 18L after ATC had advised aircraft to proceed at "Pilot's discretion".
2. The non-adherence to Emirates Taxi policies especially in a congested area.

3.3 Contributory Factors

1. Inadequate lighting at the Apron of the General Aviation Terminal.
2. The faded markings and non-enforcement of parking regulations at the General Aviation Apron.
3. The incorrectly parked aircraft on the remote parking area adjacent to taxiway C

4.0 SAFETY RECOMMENDATIONS

4.1 Safety Recommendation 2018-002

FAAN should:

1. Make the lighting at the General Aviation Apron parking area serviceable.
2. Prepare its work schedule to include a time-frame so as to enable stakeholders plan appropriately.
3. Endeavour to make the Taxiway B Runway 18L/36R leading to the holding point 18L Link 1 available to traffic from the International wing of the airport.
4. Make apron markings at the General Aviation Terminal legible and enforce Standard parking practice.

4.2 Safety Recommendation 2018-003

NCAA should intensify its oversight function to ensure adherence to Standard parking practice and availability of legible markings at the General Aviation Terminal.

4.3 Safety Recommendation 2018-004

GCAA should ensure that Emirates Airlines follow their Taxi Procedures as stipulated in their Standard Operating Procedures (SOPs).

RESPONSES TO SAFETY RECOMMENDATIONS

NCAA Response on AIB Safety Recommendations

The NCAA responded to Safety Recommendation Section 4.3 (2018-004):

The NCAA agrees with this Safety Recommendation. It is pertinent that the Bureau be informed that in the accomplishment of its safety oversight responsibilities; the Authority had written the Federal Airports Authority of Nigeria (FAAN), directing it to coordinate with the Nigerian Airspace Management Agency (NAMA) to issue a notice to Airmen (NOTAM) on the disuse of Taxiway C for a wide-body aircraft after the serious incident. This NOTAM had long been issued. The Authority had also required FAAN to immediately initiate a new remarking plan for the Domestic Terminal 1 (DT1). These markings must denote the types of aircraft to be parked at each bay. Finally, the NCAA has directed that FAAN in coordination with NAMA develop a procedure for taxiing of wide body aircraft on Runway 18L-36R pending the rehabilitation of Taxiway B which is suitable and wide enough for all types of aircraft.