



**PRELIMINARY REPORT OF INVESTIGATION OF RUNWAY EXCURSION OF SAUDIA FLIGHT SV-806, AIRCRAFT B-777,
REG HZ-AK28, OCCURRED AT VGHS AIRPORT ON 28 JUNE 2023**

(i)

**AIRCRAFT OVERVIEW
(BOEING 777)**



**THIS REPORT IS PUBLISHED BY
THE OFFICE OF THE AIRCRAFT ACCIDENT INVESTIGATION COMMITTEE OF BANGLADESH**

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INTRODUCTION

This Serious Incident investigation of 'Runway Excursion' involving Saudia Flight SV-806, aircraft type B-777-300, Registration number HZ-AK28, occurred at VGHS airport on 28 June 2023, is being conducted by the Aircraft Accident Investigation Committee of Bangladesh (AAIC-BD), in accordance with Civil Aviation Act 2017 and in conformity with Annex 13 to the Chicago Convention on International Civil Aviation.

This Preliminary Investigation Report has been issued to project an updated status of the 'Notification' on the aforementioned serious incident.

On 28 June 2023, the Head of AAIC-BD received a phone call from VGHS ATC about the 'Runway Excursion'. The occurrence took place while the aircraft was landing at Runway 14 of VGHS, Hazrat Shahjalal International Airport, Dhaka, Bangladesh. The information was later-on followed by a 'Mandatory Occurrence Report' (MOR) through an e-mail sent by the Operator, Saudia Airlines.

Following the occurrence, the Head of AAIC-BD, immediately formed a 'Go-team' designating himself as the Leader with Member Operations of the AAIC-BD as the 'member' of the 'Go-team' and rushed to the site of occurrence by the first available means to inspect and protect the necessary evidences. This has been in pursuance to Standard 3.3 of Annex 13, wherein the AAIC-BD has taken all reasonable measures to protect the evidence and maintain safe custody of the aircraft and its contents for such a period as may be necessary for the purposes of investigation. Meanwhile, the Head of AAIC-BD also advised the Airport/Aerodrome authority on telephone for ensuring adequate protection of all the evidences and safe custody of the aircraft and its contents until the arrival of the 'Go-team' at the site of occurrence.

The Office of the AAIC-BD, issued formal 'Notification' for the information of all concerned, National and International, as per the requirements of Annex 13. This was followed by forming a two-member Aircraft Accident Investigation Team (AAIT) designated by the Head of the AAIC-BD through a 'Memorandum', to conduct full-length investigation. The two-member AAIT comprised of the Head of the AAIC-BD as the Investigator-in-Charge (IIC) and Member (Ops) of the AAIC-BD as the associated Member.

The information contained in this preliminary report has been derived from the factual information and evidences gathered so far during the ongoing investigation of the occurrence and is being published pursuant to Standard 7.4 of Annex 13 and the applicable 'Link' is: <http://caab.portal.gov.bd/site/page/fa23248f-d09c-4645-aaec-74c1d246fb07>

The AAIC-BD conceives that any Aircraft Accident Investigation and analysis thereof should focus on identifying the true underlying causes and/or contributing factors rather than indicating on some human omissions for the occurrence.

As per the principle of AAIC-BD and that of ICAO Annex 13, the sole objective of this investigation shall be to prevent aircraft accidents and incidents. It is not the purpose of this activity to apportion blame or liability.

Pursuant to Standard 6.5, in the interest of accident prevention, the AAIC-BD shall make the 'Final Report' and 'Safety Recommendations' publicly available as soon as practicable and, if possible, within twelve months from the date of the occurrence.

Head
Aircraft Accident Investigation Committee

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Bangladesh

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List of Acronyms

AAIC	Aircraft Accident Investigation Committee
AAIC-BD	Aircraft Accident Investigation Committee of Bangladesh
AAIT	Aircraft Accident Investigation Team of AAIC-BD
ACCREP	Accredited Representative
AIB	Aviation Investigation Bureau of the Kingdom of Saudi Arabia
AME	Aircraft Maintenance Engineer
ATC	Air traffic Control
ATPL	Airline Transport Pilots License
CAA	Civil Aviation Authority
CAAB	Civil Aviation Authority of Bangladesh
CPL	Commercial Pilot License
DME	Distance Measuring Equipment
FIR	Flight Instructor Rating
FSR	Flight Standard and Regulations
ICAO	International Civil Aviation organization
IIC	Investigator-in-Charge
KSA	Kingdom of Saudi Arabia
N/A	Not Applicable
NDB	Non-Directional Beacon
NDT	Non-Destructive Test
NTSB	National Transportation Safety Board, USA.
PIC	Pilot-In-Command
PF	Pilot Flying
PM	Pilot Monitoring
REG	Registration
RWY	Runway
SIC	Second-In-Command
USA	United States of America
UTC	Coordinated Universal Time
VFR	Visual Flight Rules
VGHS	Hazrat Shahjalal International Airport Dhaka, Bangladesh.
VOR VHF	Omnidirectional Radio Range

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			and condition, or with the take-off or landing area if other than an aerodrome
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			using these techniques and refer here to the main features as well as describing the results under the appropriate subheadings 3.1.1 to 3.1.17
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1. TITLE

1.1 Composition of Title

1.1.1 Name of Operator?	Saudia Airlines
1.1.2 Name of Manufacturer?	Boeing
1.1.3 Aircraft Model?	B777-300
1.1.4 Aircraft Nationality?	Kingdom of Saudi Arabia
1.1.5 Aircraft Registration Marks?	HZ-AK28
1.1.6 Place of Accident/ Serious Incident/ Investigable Incident?	Hazrat Shah Jalal International Airport (VGHS), Dhaka, Bangladesh
1.1.7 Date of Accident/ Serious Incident/ Investigable Incident?	28 June 2023

2. SYNOPSIS

2.1 Details of Synopsis

2.1.1 Notification of Accident/ Serious Incident/ Investigable Incident to national and foreign authorities?	The Office of the Aircraft Accident Investigation Committee of Bangladesh has notified to all relevant Authorities and Agencies as per Standard 4.1 of ICAO Annex 13. The notification was sent within minimum possible time through e-mail to the concerned States and Agencies.
2.1.2 Identification of the Accident/ Serious Incident/ Investigable Incident Investigation Authority?	Aircraft Accident Investigation Committee of Bangladesh (AAIC-BD)
2.1.3 Accredited Representation?	<p>(a) So far, two (2) Accredited Representatives from the States and Agencies, namely the Aviation Accident Bureau (AIB) of the Kingdom of Saudi Arabia (KSA) and the National Transportation Safety Board (NTSB) of the United States of America (USA) have expressed their willingness to participate in the investigation by providing their details, as applicable, pursuant to Standard 4.6 of ICAO Annex 13. The AAIC-BD has included them to participate in the investigation, pursuant to Standard 4.10 of Annex 13.</p> <p>(b) While the ACCREP from the NTSB has been participating through communication from USA, the ACCREP from the AIB, accompanied by three (3) Advisors – one each from Flight operations, Airworthiness and FDR/CVR expertise, travelled to Dhaka, Bangladesh to physically participate in the investigation.</p> <p>(c) The AIB Team reached Dhaka on 05 July 2023 and remained engaged in the investigation with the AIT for consecutive three days and witnessed/ inspected all the relevant evidences those include the following:</p>

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	<ol style="list-style-type: none"> (1) The affected aircraft; (2) The VGHS Runway, especially the geographical spots and places of the aircraft excursion areas; (3) The VGHS ATC and surrounded areas, structures and fittings of ATS/ NAV facilities; (4) The Photographs and Videos so far collected and taken; (5) The ATC tape recordings/ transcripts; (6) The Statements of the witnesses so far collected. <p>Both the AAIT and AIB Teams discussed at length on various aspects of the investigation and mutually exchanged opinions on the probable causes and contributing factors of the serious incident involving 'Runway Excursion'.</p>
2.1.4 Organization of the Investigation?	Aircraft Accident Investigation Team (AAIT), designated by the Head of the AAIC-BD through a 'Memorandum'.
2.1.5 Authority releasing the report?	Aircraft Accident Investigation Committee of Bangladesh (AAIC-BD).
2.1.6 Date of publication or dispatch of report?	26 July 2023
2.1.7 Brief resume of the circumstances leading to the accident/ serious incident/ investigable incident?	<ol style="list-style-type: none"> (a) The Saudia Airlines Flight SV-806, originated from Riyadh (OERK), Kingdom of Saudi Arabia to land at Dhaka (VGHS), Bangladesh on 28 June 2023. (b) To land at VGHS, the aircraft made an ILS approach at Runway 14 in moderate rain with visibility of 1500 Meters and cross wind of 05 Knots from starboard. (c) According to the statement of the flight crew, the aircraft was stabilized on ILS approach for Runway 14 at 1000 feet with autopilot flying. During the final approach, visual contact with the Runway approach lights were sighted by the flight crew while approaching the 'Minima' (261 Feet AGL). At this time the flight crew switched off the autopilot to hand-fly the aircraft for approach and landing. (d) Again, according to the flight crew, the 'Localizer' of the VGHS ILS RW 14 was fluctuating during the ILS approach. when the first visual contact with the approach lights was made by the flight crew, the position of the aircraft was slightly left of the runway approach-line of RW 14. (e) The flight crew, during hand-flying made the necessary correction to align the aircraft with the runway and to continue with the approach to land on runway 14. (f) The aircraft touched down on the left side of the centerline of the wet runway surface at 300-500 feet down the threshold line of Runway 14 at an angle of

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	<p>about 10-12 degrees left heading with the runway centre-line heading.</p> <p>(g) After touchdown, the aircraft rolled along the left half of the RW concrete surface, tangentially on the left half of the centerline, for about 1500 feet and gradually kept veering further left until the left main landing gear went approximately 10-15 feet away from the runway shoulder concrete surface into the grassy-mud.</p> <p>(h) The aircraft then continued to roll down almost parallel to the runway left edge line with its left main gear remaining on the wet grassy mud, for about 1500 feet. During this time, the left main gear wheels overran over five (5) concrete cable laying iron made pit-covers, of each having dimension of about 6 feet x 6 feet and crashing about three (3) pit-covers and associated structures. Thereafter, the left main landing gear reverted back on the runway surface.</p> <p>(i) The aircraft then rolled down the runway end, back-tracked and was taxied to Parking Bay # 5 via the centre taxi track.</p>
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3. BODY

3.1 Factual Information

3.1.1 History of the flight:

3.1.1.1 Flight number?	SV-806
3.1.1.2 Type of operation?	International passenger/cargo operation
3.1.1.3 Last point of departure?	King Khalid International Airport, Riyadh (OERK)
3.1.1.4 Time of departure (Local time or UTC)	2110 UTC/ 27 June 2023
3.1.1.5 Point of intended landing?	Hazrat Shah Jalal International Airport (VGHS), Dhaka, Bangladesh
3.1.1.6 Flight preparation?	The aircraft approached and landed at VGHS RW 14 with full landing configuration with the auto brake selection at 4.
3.1.1.7 Description of the flight and events leading to the accident/ serious incident/ investigable incident, including reconstruction of the significant portion of the flight path, if appropriate?	Figure-1 (Next page)

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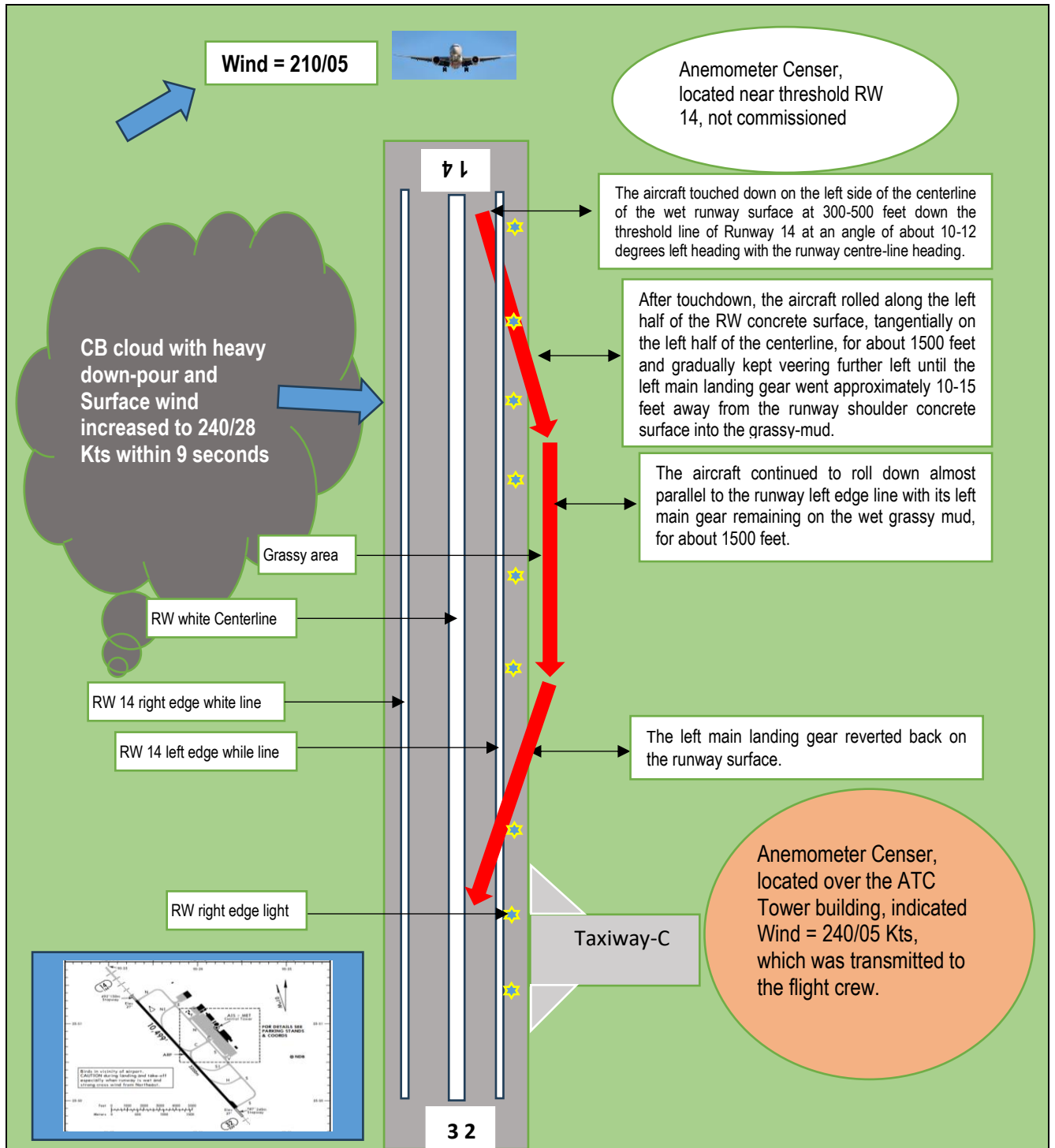


Figure-1 (Diagram is not to scale)

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3.1.1.8 Location (latitude, longitude, elevation)?	N23°51.14' E090 ° 23.20'; Elevation: 24 Feet
3.1.1.9 Time of the accident/ serious incident/ investigable incident (Local or UTC)?	Serious incident, occurred at 0142 UTC
3.1.1.10 Whether day/night?	Day

3.1.2 Injuries to Persons

Injuries	Crew	Passenger	Others
3.1.2.1 Fatal?	None	None	None
3.1.2.2 Serious?	None	None	None
3.1.2.3 Minor?	None	None	None

3.1.3 Damage to Aircraft (Brief description)

3.1.3.1 Destroyed?	No
3.1.3.2 Substantially damaged?	<p>(a) All the six tyres of the left main landing gear were found partially and/or completely torn and damaged with one wheel hub exposed. All wheels and wheel-well areas were full of grass and mud deposition.</p> <p>(b) Minor bend/damage to some degrees of the left inner flap of the aircraft was found with grassy mud deposition around the flap hinges.</p> <p>(c) Details of the damage:</p> <ol style="list-style-type: none"> (1) Right hand aft harness connected to junction box torn, bracket displaced from clamp; (2) Left hand aft harness connected to junction box bracket displaced from clamp; (3) Steering actuator harness connected to junction box damaged; (4) Aft left inboard flap with 2 dents: - <ol style="list-style-type: none"> a. # 1: dent width = 16.5-inch, length = 13.5-inch, b. # 2: dent width = 5.5-inch length = 5.6-inch, (5) Wheel # 1 harness torn; (6) Wheel # 10 harness torn; (7) Right hand aft harness connected to junction box torn; (8) Steering actuator harness connect to junction box torn; (9) Brake temp compensation module damage; (10) Wheel #10 speed sensor harness damage; (11) Brake temp sensors damage; (12) 2 dents found identical in the opposite side at the left-hand inboard flap, dimensions: - <ol style="list-style-type: none"> a. L=12"

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	<p>b. W=10” c. In dent =0.04” d. Nearest fastener =5.5” e. Nearest edge=1”</p>
3.1.3.3 Slightly damaged?	No

3.1.4 Other damage

3.1.4.1 Brief description of other damage?	Three (3) concrete cable laying iron made pit-covers and associated structures which, were located next to the runway edge line, were damaged and/or broken.
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3.1.5 Personnel information

3.1.5.1 Pertinent information concerning each of the flight crew members regarding age, validity of licenses, ratings, mandatory checks, flying experience (total and on type) and relevant information on duty time?	Pilot in Command: Age: 61 years; Nationality: Malaysia; ATPL: No. D-1939, Non-expiry Ratings: Current on B-777-300; Mandatory Checks: Done on 16-05-2023 Flying Experience (On type): 4549.55 Hrs Rest Period: More than 24 Hrs Instructor Rating: Not applicable Management Post: Nil Medical Status: Class-1 till 31-8-2023 CRM training Done on 10-10-2022	Co-pilot Age: 50 years. Nationality: Saudi ATPL No: CP-25129; Non-expiry Rating: Current on B-777-300 Mandatory Checks: Done on 03-06- 2023 Flying Experience (Total): 5300 Hours. Flying Experience (On type): 1780 Hours. Rest Period: More than 22 Hours Instructor Rating: Not applicable Management Post: Nil Medical Status: Class-1 till: 12/12/2023 CRM training: Done on APR 2023
3.1.5.2 Brief statement of qualifications and experience of other crew members?	Not applicable	
3.1.5.3 Pertinent information regarding other personnel, such as air traffic services, maintenance, etc., when relevant?	Not relevant to this investigation.	

3.1.6 Aircraft information

3.1.6.1 Brief statement on airworthiness and maintenance of the aircraft (indication of deficiencies known prior to and during the flight to be included, if having any bearing on the accident/ serious incident/ investigable incident)?	Aircraft was airworthy. There was no technical defect detected prior to release for the flight from Riyadh.
3.1.6.2 Brief statement on performance, if relevant, and whether the mass and centre of gravity were within the prescribed limits during the phase of operation related to the accident/ serious incident/ investigable incident. (If not and if of any bearing on the accident give details.)?	<p>(a) Performance status was satisfactory;</p> <p>(b) Mass & Centre of Gravity were within limit;</p>
3.1.6.3 Type of fuel used?	JET A-1

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3.1.7 Meteorological information

<p>3.1.7.1 <i>Brief statement on the meteorological conditions appropriate to the circumstances including both forecast and actual conditions, and the availability of meteorological information to the crew?</i></p>	<p>METAR: SW: 160/04 knots; VIS: 3500 Meter; WX: Broken 900 feet; FEW CB 2500 feet; Overcast 9000 feet; QNH: 1005.9 millibars; Temperature: 26 Degrees C; Tempo: TS/RA; Humidity: 88%; SPECI: 0150 for poor visibility; Surface wind 190/08 knots; Visibility 2500 in rain; Cloud: broken 800; Few: 2500; Overcast: 8000; Temperature: 26/24; QNH: 1006.6. WX Warning: 27 June 2350 Z; For RATS/RA gusty wind, Low clouds & poor visibility; Extended up to 28 June 0320 UTC.</p>
<p>3.1.7.2 <i>Natural light conditions at the time of the accident/ serious incident/ investigable incident (sunlight, moonlight, twilight, etc.)?</i></p>	<p>Sunlight but sky was obscured due to moderate to heavy rain.</p>

3.1.8 Aids to navigation

<p>3.1.8.1 <i>Pertinent information on navigation aids available, including landing aids such as ILS, MLS, NDB, PAR, VOR, visual ground aids, etc., and their effectiveness at the time?</i></p>	<p>NAV Aids: VOR, DME & ILS were serviceable; VGA: Precision Approach Path Indicator Lights, Flashing Lights, Threshold Lights, Runway Edge Lights, Centerline Lights, Touchdown Zone Lights and Taxi Lights were available, ON and effective.</p>
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3.1.9 Communications.

<p>3.1.8.1 <i>Pertinent information on aeronautical mobile and fixed service communications and their effectiveness?</i></p>	<p>(a) All Aeronautical Mobile and Fixed Service Communications were normal. (b) Communications between SV-806 and the ATC of Hazrat Shahajalal International Airport (VGHS), Dhaka, Bangladesh were normal. (c) Communication on 'ground frequency' 121.8 Mhz was clear, but one of the transmissions made by the PIC of the flight was not responded by the ground controller as was requested by the PIC. Details of further information will be provided in the final report.</p>
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3.1.10 Aerodrome information

<p>3.1.10.1 <i>Pertinent information associated with the aerodrome, facilities and condition, or with the take-off or landing area if other than an aerodrome?</i></p>	<p>Aerodrome facilities and associated conditions were normal. However, the runway surface was wet due to medium to heavy rain.</p>
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3.1.11 Flight recorders




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3.1.11.1 Location of the flight recorder installations in the aircraft, their condition on recovery and pertinent data available therefrom?	The Digital Flight data Recorder (DFDR) of the aircraft was located at the aft section of the aircraft which has been recovered intact by the investigating team;
3.1.11.2 Location of the cockpit voice recorder installations in the aircraft, their condition on recovery and pertinent data available therefrom?	The Cockpit Voice Recorder (CVR) of the aircraft was located at the aft section of the aircraft which has been recovered intact by the investigating team;

3.1.12 Wreckage and impact information

3.1.12.1 General information on the site of the accident/ serious incident/ investigable incident and the distribution pattern of the wreckage, detected material failures or component malfunctions. Details concerning the location and state of the different pieces of the wreckage are not normally required unless it is necessary to indicate a break-up of the aircraft prior to impact. Diagrams, charts and photographs may be included in this section or attached in the appendices?			
	<p style="text-align: center;">Left Outer tyres Left inner tyres</p> <p style="text-align: center;">Fig-2 Left wheel of the aircraft touched down and rolled on the concrete outside the left RW edge white line.</p>	<p style="text-align: center;">Point of left wheel getting into grass</p> <p style="text-align: center;">Fig-3 The AAIT investigator standing furthest is the point where the left wheel moved into the grass.</p>	<p style="text-align: center;">Fig-4 Left wheel tyre marks on muddy grass.</p>
Note: Additional photos will be provided in the final report.			

3.1.13 Medical and pathological information

3.1.13.1 Brief description of the results of the investigation undertaken and pertinent data available therefrom?	To be included in the Final Report
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3.1.14 Fire

3.1.14.1 If fire occurred, information on the nature of the occurrence, and of the firefighting equipment used and its effectiveness?	There was no evidence of fire at any stage of the occurrence.
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3.1.15 Survival aspects

3.1.15.1 Brief description of search, evacuation and rescue, location of crew and passengers in relation to injuries sustained, and	(a) Neither any passenger nor any crew sustained any injury as a result of this
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<i>failure of structures such as seats and seat-belt attachments?</i>	occurrence. (b) All passengers and crew were disembarked through the Boarding Bridge.
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3.1.16 Tests and research

<i>3.1.16.1 Brief statements regarding the results of tests and research?</i>	<p>(a) The DFDR and the CVR were decoded with the assistance of the AIB, KSA team in presence of the AAIT.</p> <p>(b) The AIB Team shared the DFDR and CVR readout and partial analysis with the AAIT.</p> <p>(c) Details of the tests and analysis will be systematically accomplished in cooperation and coordination among the AAIC, AIB and NTSB teams and conclusive results of research will be provided in the final report.</p>
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3.1.17 Organizational and management information

<i>3.1.17.1 Pertinent information concerning the organizations and their management involved in influencing the operation of the aircraft. The organizations include, for example: the operator; the air traffic services; airway, aerodrome and weather service agencies; and the regulatory authority. The information could include, but not be limited to, organizational structure and functions, resources, economic status, management policies and practices, and regulatory framework?</i>	<p>(a) The Organizational and management information of the concern operator will be provided in the final report.</p> <p>(b) With regard to the organizational and management information of VGHS and other domestic airports' Air Traffic Services, Aerodrome Services, Weather Services etc., the AAIC-BD has planned to hold a joint 'Safety Meeting' with all concerned departments responsible for safety oversight system of the Civil Aviation of Bangladesh for safety enhancement and accident prevention.</p>
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3.1.18 Additional information

<i>3.1.18.1 Relevant information not already included in 3.1.1 to 3.1.17?</i>	To be included in the final report
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3.1.19 Useful or effective investigation techniques

<i>3.1.19.1 When useful or effective investigation techniques have been used during the investigation, briefly indicate the reason for using these</i>	<p>(a) The AAIT uses the following techniques to investigate this serious investigation:</p> <p>(1) Securing the Accident Site: The Go-team as well as the AAIT secured the accident site to preserve evidence and ensure the safety of investigators;</p> <p>(2) Gathering and Analyzing Data: The AAIT Investigators collected a wide range of data, including air traffic control communications, cockpit voice recordings, flight data recorders (black boxes), maintenance records, and</p>
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<p><i>techniques and refer here to the main features as well as describing the results under the appropriate subheadings 3.1.1 to 3.1.17?</i></p>	<p>eyewitness accounts, so that, analyzing this information will help reconstruct the sequence of events leading to the occurrence;</p> <p>(3) Human Factors Analysis: Examining the human element is crucial in understanding the occurrence. Factors such as crew performance, decision-making processes, training, fatigue, and workload are assessed, such as, interviews, reviewing crew qualifications, and analyzing training records;</p> <p>(4) Technical Analysis: Experts examine the aircraft's systems, structures, and components to determine if any mechanical or technical failures occurred. Considering the type of occurrence, studying maintenance records, conducting laboratory tests, and analyzing the recovered wreckage were omitted.</p> <p>(5) Simulation and Reconstruction: Computer simulations and physical reconstructions can be used to recreate the accident scenario. By inputting available data, investigators can study the behavior of the aircraft under different conditions to help identify potential causes. This remains pending and will be included in the final report.</p> <p>(6) Documentation and Report: The AAIT and AIB Team will compile their findings and conclusions in a final report. This report typically includes a description of the accident, the sequence of events, contributing factors, and safety recommendations to prevent similar incidents in the future</p> <p>(7) Collaboration and Expertise: As the aircraft accident investigations often involve multiple stakeholders, including regulatory bodies, manufacturers, airlines, and experts from various fields, collaboration and expertise from these organizations are being taken to construct a comprehensive investigation in this case.</p>
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3.2 ANALYSIS

[The following analysis has been made based on the information documented in 'Factual information' and which is relevant to the 'Determination of Conclusions' and 'Causes and/or Contributing Factors']

3.2.1 Man?	(To be provided in the final report).
3.2.2 Machine?	(To be provided in the final report).
3.2.3 Environment?	(To be provided in the final report).
3.2.4 Organizational Aspect?	(To be provided in the final report).
3.2.5 Motivational Aspect?	(To be provided in the final report).

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3.3 CONCLUSIONS

[Listed below are the findings, causes and/or contributing factors established in the investigation. The list of causes and/or contributing factors include both the immediate and the deeper systemic causes and/or contributing factors]

3.3.1 Findings?	(a) Considering that this is a preliminary report, the AAIT, in consultation with accredited representative of Saudi Arabia has made the following initial findings after having partially analyzing the DFDR data at the facility of AIB, KSA. However, the details of the findings will be provided in the final report:				
	SL	DFDR Parameter	Wind Direction & X-Wind Component	Event	Remark
	1	RA 185	204/11 Kts 10 Kts Right	Auto Pilot was Engaged in Approach mode	Centerline (CL) aligned; on IAS/VS and in correct landing configuration Ground/Surface visual contact
	2	RA 95	205/08 Kts 7 Kts Right	Auto Pilot was Disconnected	
	3	RA 50	208/05 Kts 4 Kts Right	Started Left Drift Off Center Line	Left Control Wheel was applied which was opposite to required application.
	4	RA 30	230/06 Kts 6 Kts Right	Drifted Completely OFF-Center Line and centered on the Left Side of Left RWY Quadrant; LOC indicator moved to the right	
	5	RA 05	255/07 Kts 7 Kts Right	Left Main Landing Wheels aligned with Left White RWY edge Line. Magnetic HDG same and in parallel to RWY axis but track drifting to the left	Right Control Wheel applied (proper input for Right cross wind). PIC (PM) repeatedly made alerts calls to the FO (PF) about centerline.
	6	Weight On Wheels	257/08 Kts 8 Kts Right	Touch Down with Left Landing wheels in proximity to White Runway left edge line.	Control wheel was turned to left (opposite to required).
	7	Micro Burst (Right) WIND GUST		Localized Wind Gust (Micro Burst) of 15 seconds duration **Begin 250/07 Kts Within the next 9 sec the wind peaked: 240/28 Kts	

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	<p>The following 6 sec the wind dropped to 280/05 Kts PIC (PM) constantly repeated “Centerline” caution calls and eventually took over the control of the aircraft.</p> <p>See Fig-5 below:</p>
8	<p>Aircraft landing roll distance off left edge white line was approximately 910 m</p> <div style="text-align: center;"> </div> <p style="text-align: center;">Figure showing a plot for the recorded crosswind speed at the moment of landing. Fig-5</p> <p>(b) DFDR partial analyses suggests that the initial touchdown was in the vicinity of the left edge of the white sideline runway marking. However, the aircraft’s veering off onto the left adjacent grass turf was a result of a sudden strong gust, blowing the aircraft off the wet-paved runway surface.</p> <p>(c) Evidence of hydroplaning has not been concluded.</p> <p>(d) Collecting evidence for a complete excursion scenario has not been completed, consideration for wet runway contaminant residue effect on wheels side-loading traction and possible localizer accuracy for runway centerline alignment requires validation before being totally excluded. This will be elaborated in the final report.</p>
3.3.2 Causes?	<p>(a) The AAIC-BD will provide the details of the causes in the final report after critical analysis of the DFDR/CVR data and any other associated factors.</p> <p>(b) At this stage however, it is somehow apparent that the aircraft’s offset touch-down well into the left half of the runway and the drifting further to the left into the grassy area were due to lack of prompt and adequate corrective action, required to be applied by the pilot flying, hence presumed as human error (pilot error) as considerable cause for the runway excursion.</p>
3.3.3 Contributing Factors?	<p>(a) The AAIC-BD will provide the details of the contributing factors in the final report after critical analysis of the DFDR & CVR data, consolidated animation of the flight and landing path and any other events/ associated factors.</p> <p>(b) At this stage however, it is somehow apparent that sudden rise of surface wind, to the extend 240/28 Kts within 09 seconds that probably resulted due to down-pour of thick rain</p>

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from the starboard side forcefully drifted the aircraft to the left into the grassy mud.

3.4 Safety Recommendations

3.4.1 <i>Intermediary Safety Recommendations/ Safety Bulletin?</i>	Pursuant to 3.1.17.1 (b) of this report, a 'Safety Meeting' will be held between the AAIC-BD and all concerned departments conducting safety oversight by the Civil Aviation Authority of Bangladesh for safety enhancement and accident prevention.
3.4.2 <i>Safety Recommendations?</i>	(To be provided in the final report).

4. APPENDICES

4.1 Details of Appendices

All evidences, documents, photographs etc. are being systematically stored in file.

END

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