



PAKISTAN CIVIL AVIATION AUTHORITY
(SAFETY & INVESTIGATION BOARD)



**FATAL ACCIDENT TO IL-76 AIRCRAFT 4L- ZIL
OPERATED BY ROYAL AIRLINES PAKISTAN
LEASED BY GLOBAL GEORGIAN AIRWAYS
ON 11 NOVEMBER 2005
NEAR KABUL, AFGHANISTAN**

FINAL REPORT

FATAL ACCIDENT TO IL-76 AIRCRAFT REG. 4L-ZIL OPERATED BY ROYAL AIRLINES PAKISTAN LEASED BY GLOBAL GEORGIAN AIRWAYS ON 11 NOVEMBER 2005 NEAR KABUL, AFGHANISTAN

Authority: Director General Pakistan Civil Aviation Authority Memorandum No. HQCAA/1901/303/SIB dated 6th February 2008 (**Appendix 'A'**).

The Government of Afghanistan delegated the task of completing the investigation report to CAA Pakistan as per ICAO Annex-13, Chapter 5, 5.1.1 (**Appendix 'B'**).

SYNOPSIS: On 11 November 2005, an IL-76 Cargo aircraft operated by M/s. Royal Airlines Pakistan was on a planned mission to Afghanistan to deliver medical and food supplies for International Security Assistance Force (ISAF). The aircraft using Pakistan call sign RPK-1102 took off from Sharjah International for Bahrain- Kabul- Bagram and Sharjah sector with 7 crew members including a Pakistani, as a Flight Manager. The aircraft landed at Kabul airport via Bahrain and after off-loading the cargo, took off for Bagram. It was in contact with Kabul Tower (Local Controller) till it changed frequency to Bagram Radar Controller at 05.22'15". However, communication between Bagram Controller and IL-76 lost while the aircraft was holding at 10,000 feet 10 NM South West of Bagram. Later it was reported by civil administration of Kabul that it had crashed near a small village Takhte-Shaheedan killing all persons on board. Afghan Civil Aviation Authority ordered an inquiry into the crash. Pakistan was accorded representation as state of operator. However, due to certain difficulties and technical limitations, the inquiry could not be completed in next two years. The father of the Pakistani Flight Manager filed a petition with President of Pakistan and demanded for the investigation report. Hence in 2007, Afghan Civil Aviation on a recommendation by Safety Investigation Board (SIB) PCAA handed over the investigation task to Pakistan Civil Aviation Authorities in accordance with ICAO Annexure 13. PCAA under took the task to meet its and ICAO obligations of investigating and submitting the report to all interested parties through their accredited representatives. The report has been finalised with the help of Interstate Aviation Committee Russia and ISAF/NATO coalition force headquarters in Afghanistan, without whose support the investigation would have been a cause undetermined.

1. FACTUAL INFORMATION

History of the Flight: The accident was formally reported by FSO Royal Airlines Mr. Raghib Saghir on 12th November 2005. (See Appendix 'C' for accident / incident report). The crew briefing for the flight is given as per Appendix 'D'. The aircraft was registered in Georgia with Global Georgian Airways and it was operated by Royal Airlines, under the terms of the leased agreement between Global Georgian Airways through Aerospace Consortium FZE and Royal Airlines (Pvt) Ltd dated 13th April 2005 in accordance with CAA Operating & Rules. (See Appendix 'E' for amendment to operations specifications). The aircraft was inspected by CAA Airworthiness Department before induction in the Royal Airlines' fleet. (See Appendix 'F' for observations by CAA).

The initial information on the occurrence was available only through a record of SMS messages received from Mr. Asif Baig of Royal Airlines, who was monitoring and recording conversation and SMS messages on mobile No. 0097-150- 5505271 at Sharjah, UAE. The conversation between Flight Manager and recording of messages on mobile produced a history of events before last take off. It records that

"The aircraft took-off from Sharjah at 2100 hrs UTC and landed at Bahrain (OBBI) at 2200 hrs; it took off from OBBI at 0010 hrs UTC and landed Kabul at 0300 UTC, it finally left Kabul at 0520 UTC and crashed shortly. At Kabul 2 ton fuel was authorised as per the request of Flight Manager. At 0510 UTC, Flight Manager messaged for his mobile (00937 796 75538) saying that

"Aircraft is ready for departure"

As per standing instructions to all Flight Manager's an SMS message should have been there about the actual timings as and when the aircraft is departed or landed at any airport. After the message quoted above there was no message from the Flight Manager. The Sharjah manager kept waiting till 0540 UTC for Flight Manager's message regarding landing at Bagram. At 0545 UTC, he sent a SMS to him enquiring the status and there was no response. At the same time, he sent a SMS message to Mr. David (Royal airlines customer's representative) at Bagram enquiring the flight status and there, too, was no response through SMS. Immediately thereafter, the Sharjah called him and again there was no answer. He again called Capt. Hasnain at 0550 and the same recorded message was heard. He also tried calling the aircraft Captain's Dubai roaming Mobile No. 050-861292 and there was the same recorded message in Afghani language. At 0600 UTC again He tired calling Capt. Hasnain but a recorded message in Afghan language was heard and there was no answer. At 0610 UTC he sent an SMS to Mr. David (customer's representative at Bagram airbase) enquiring the status of the flight and there was no response. At 0615 UTC he again called Capt. Hasnain and the same recorded message came. At 0620 UTC he called Mr. David and he informed that there is no ETA for the flight. Sometimes, the aircraft is pushed back at

Kabul Airport and the aircraft is kept waiting for take off due to some VIP movement or military exercise and I was under the impression that this would have happened. Another assumption was that the entire cargo was offloaded in Kabul and the aircraft was heading toward Sharjah and during this period I was in contact with Sharjah and operations for any ETA and this was the reasons why I did not informed by head office. AT 0635 UTC, I again called Mr. David and he said he will go tower and check the status and asked to call again. At 0645 UTC I again called Capt. Hasnain and the same recorded message came. Immediately I called Mr. David again and he asked me to stand by. At 0655 UTC he called Mr. David and he said that flight has not landed and there is no communication with the aircraft and 0705 UTC he requested him to please check with his counter part in Kabul regarding the flight movement. At 0715 UTC he informed me that aircraft departed at 0520 UTC. AT 0730 UTC, I called my operator and he also reported that they could not communicate with the Captain nor the flight had landed in Bagram. We could not get through to Kabul Tower and we used our sources and found out that the aircraft had departed at 0520 UTC and this communication happened between 0730 and 0745 UTC. At 0745 YTC I called my MD Capt. Faizi Sb and informed the above status the aircraft. Capt. Hasnain was also the Flight Manager on the same aircraft on the 10th November 2005 flight from Sharjah to Bahrain to Bagram". (**See Appendix 'G'** for record of SMS messages). Another important source of information is a report regarding aircraft accident (without any prejudice) by MD Royal Airlines attached as **Appendix 'H'**.

1.1 **Injuries to Persons:** As per the general declaration form made available by Royal Airlines, there were eight persons on board who were fatally injured. **See Appendix 'J'**.

(a)	Mr. Gorlov Sergey	Russian
(b)	Mr. Leibin Andrey	Russian
(c)	Mr. Mekhov Andrey	Russian
(d)	Mr. Maibogin Engeny	Russian
(e)	Mr. Moskvitin Serguei	Russian
(f)	Mr. Khytun Anatoliy	Ukrainian
(g)	Mr. Germanchuk Vitaly	Ukrainian
(h)	Mr. Husnain Ali	Pakistani

1.2 **Damage to Aircraft:** Aircraft completely destroyed.

1.3 **Aircrew Information:**

- (a) Capt. Gorlov Sergey
- (b) Co-Pilot Leybin Andrey

1.4 **Aircraft Information:** IL-76TD, Registration No. 4L – ZIL.

1.5 **Address of the Owner:** Messrs. Global Georgian Airways, SaqarTvelo, 0136 181, B. Khmel'nitski Street q. Tbilisi, b. Xmel'nickis, q. 181, Tbilisi, 0136, Georgia and leased to M/s. Royal Airlines (Pvt) Limited, D/27, Avenue 3, Street 1, Block-5, Clifton, Karachi.

1.6 **Flight Data Recorders / CVR:** The flight data recorder system of IL 76 employs two magnetic tape recorder units, the main 36H-1-3 recorder unit and K 6H-1-1 auxiliary recorder unit which always makes available the information for last 25 & 20 flight hours respectively. **The main recorder unit was recovered from the site, however, very strange, there was no magnetic tape inside, the examination of the screws indicated that the unit was opened using tools and then casually re-assembled.** The auxiliary unit was found in a bad damaged condition. It was taken to Interstate Aviation Committee, Russia; where it was decoded. It was observed that it contained information on flights on 29-06-2005, 13-08-2005, and 17-08-2005 (when tape was moving on one side) and on 28-08-2005, 25-09-2005 and 26-09-2005 where tape was moving to the other side; **hence the last registered flight was on 26-09-2005.** The tape did not contain information on any flight after 26-09-2005 till the eventful flight on 11-11-2005. It means that probably the magnetic tape driver MLP-14-6 was unserviceable since 26-09-2005. **See Appendix 'K'** for detailed report by Interstate Aviation Committee, Russia.

1.7 **ATC Transcripts:** The ATC transcripts were not made available during first phase of investigation as the airspace control was exercised by ISAF/US forces. However, the Russian Interstate Aviation Committee provided record of a radio communication between GGZ-1164 and Brickyard 41 with Bagram. These aircraft were enroute from Bagram to Sharjah. **See Appendix 'L'.** According to the radio communication records RPK was making a left turn at 05.23'40" UTC. In the latter part, the controller is asking two aircraft i.e. GCZ and BRIK regarding the PRK but none of these could locate the unfortunate aircraft.

1.8 **Information from Media:** In the absence of any information from Afghan Civil Aviation Authorities, NTSB and coalition forces, the Media Reports were also an important source for collecting information on search and rescue operations, place of occurrence, damage to aircraft and probable causes of occurrence. **See Appendix 'M'** for media reports by Gulf Times, Inter-fax, Isonline, DAWN, The News, Daily Times, Middle East Times, Moscow Times and Khaleej Times etc.

However as a result of continued efforts on part of CAA Pakistan; ISAF / NATO provided the ATC (Radio Transcription) in August 2008, between Kabul Tower Local Controller (LC) and the aircraft (**See Appendix 'T'**). According to this information the aircraft was in contact with Kabul till 05 22 15 UTC; then it changed its frequency to Begram controller.

1.9 **Impact Information:** Aircraft made a very shallow impact with the ground. There were no deep penetrations by the aircraft parts at any area around. Engines and major structural parts were lying on the ground. Its main body was found shattered in large and small structural parts. The fuel caught fire and there was lot of local ground burning. This left burn marks around the area. Two engines rolled down in the shallow gorges and made some impact marks. The impact and wreckage spread was limited to a small area. See photographs at **Appendix 'U'** for impact area and local maps.

1.10 **Medical & Pathological Information:**

1.10.1 **Handling of remains:** Permission was granted to M/s. Royal Airlines by Global Georgian Airways, Georgia to collect and conduct medical examinations on the remains of the victims; which were made available by the Afghanistan Authorities **Appendix 'N'**. The investigation team through the representatives of M/s. Global Georgian Airways stationed at Kabul, collected the remains and transferred these for DNA matching at "The Centre for Applied Molecular Biology (Ministry of Science & Technology) located at 87-West Canal Bank Road, Thokar Niaz Baig, Lahore-53700, Pakistan.

1.10.2 Global Aviation also provided samples of Blood, Buccal Swabs and / or DNA strings and / or any other samples deemed necessary to obtain results for DNA matching of the remains. The results of DNA tests are attached as **Appendix 'N'**.

1.11 **Fire:** Ground fire caused damage to a number of parts, However many heavy and large parts which separated during disintegration of aircraft after impact were not affected by ground fire. There was lot of fuel which burnt along with aircraft parts. A number of pictures appeared in the media.

2. **INVESTIGATION AND ANALYSIS**

2.1 **Introduction**

The initial investigation by State of Occurrence was based on the limited maintenance history extracted from aircraft documents, scrutiny of a range of safety oversight activities performed by state of registry and operator, information from air navigation services for the last flights, assistance from Interstate Aviation Committee, Moscow Russia, information by Civil Aviation Afghanistan, news and reports appeared in the international media and last and most important the evidence from aircraft wreckage.

In this phase of investigation when PCAA was only a State of Operator, there were a number of serious limiting factors such as non availability of radar picture, recovery of an un-serviceable standby FDR from crash site, extraction of FDR tape from the main FDR

container at crash site by some one, non recovery of CVR from the wreckage site and the fact that majority of aircraft parts were taken away by the local public before the arrival of investigators. Despite these difficulties which are normally faced by investigators while investigating an occurrence in an almost war zone; CAA Pakistan in coordination with CAA Afghanistan and cooperation of Inter state aviation committee Russia made efforts to complete the investigation. However, the state of occurrence could not produce the final report till December 2007. Whereas, Pakistan Civil Aviation Authority was under pressure to obtain the investigation report from Afghan Civil Aviation Authority, as the report was not only required to take corrective actions but also to settle legal issues due to death of a Pakistani on board. Hence, PCAA took over the task of completing the investigation as per ICAO Annex – 13, Chapter 5, 5.1.1, in January 2008 (**See Appendix 'B'**).

2.2 Probable causes of the accident:

The initial information regarding the cause of crash were so conflicting that it appeared that the investigation would be impossible taking into consideration the facts that Radar and ATC information was not made available by ISAF and coalition forces. The wreckage was un-safe from disturbance. However following probable causes were considered for analysis:

- (a) Aircraft was shot down by coalition air forces by mistake.
- (b) Aircraft was shot down by Afghan warlord through ground fire.
- (c) A technical defect leading to the crash
- (d) Incapacitation of aircrew
- (e) In-flight Fire or structural failure
- (f) Control Flight Into Terrain (CFIT)

2.3 Shooting by Coalition Forces:

There were rumours that it had been shot down by F-16s which were flying in the area at that time. It was further talked amongst public that crash site was cordoned by coalition forces and no one was allowed to enter the wreckage area for first six hours of the accident. Hence the rumours got strength and it was argued that evidence of shooting down by coalition air forces was being masked or tempered or taken away. But very peculiar evidence was the cover of FDR was found from the wreckage side without FDR. The examination revealed that the housing was opened with screw drivers and after taking out the FDR the body was closed and left with the wreckage. It remained a mystery as to who took away the FDR Tape from the main FDR container.

However a logical analysis of the situation for this aircraft does not provide a rational or reason for its being shot down by coalition or American Forces whether intentionally or even by mistake due to following fact:

- (a) The aircraft was operated by an operator i.e. Royal Airlines Pakistan which was cleared by American relevant organizations for operations. **(Appendix 'H')**.
- (b) The aircraft took off from Dubai and had landed safely at Kabul.
- (c) It took off from Kabul for Bagram under positive radar cover.
- (d) It was on cargo mission with medicine and food supplies.
- (e) It was day time flight.
- (f) It was a huge cargo aircraft not to be mistaken as an enemy fighter.
- (g) The aircraft was in contact with air traffic control services at Kabul and then changed frequency of Bagram.
- (h) It was in contact with Bagram and was holding 10,000 due to non availability of runway.

Hence the probability of its being shot down by coalition forces is extremely rare. There could not be any reason for such an eventuality. There was not any complex or complicated air warfare in progress that a fighter might make a mistake and shoot a non military aircraft which was well identified and under positive control.

2.4 Shooting down by ground fire:

There was no break of communication between air traffic control tower and aircrew prior to crash. Additionally the Flight Manager was in constant contact with his management through a mobile phone. He could have given an SMS regarding any difficulty or abnormality. The sudden disappearance of the aircraft and break of communication indicate that whatever happen; there was no chance for any distress call by the aircrew or Flight Manager through mobile. A ground fire through a gun, pistol, or shoulder mounted missile, rocket or machine gun can cause damage to an area of this huge aircraft and in certain conditions it can still maintain flight or at least convey message. In severe conditions it may eventually crash but considering the possible kinds of ground fire techniques or weapons, it will not simply loose height and crash. There will be ample chance for aircrew to give a distress call which was not there. Hence possibility of ground fire as a cause of the crash is ruled out.

2.5 Incapacitation of the Aircrew:

In a number of air accidents, incapacitation of the aircrew due to various reasons had been a cause of crash. For instance the B737 which crashed in near Athens Greek in May 2005 was due to incapacitation of the aircrew, as they were frozen due to low temperatures. However the aircraft kept flying for more than one hour due to automation. Poisonous or nerve gases have been another cause of aircrew incapacitation. Heart attack or any other medical emergency could have been a reason but that could happen with one or two persons, all the crew members are not expected to experience incapacitation. However in this case

considering the number of aircrew and presence of a Flight Manager on board and their respective positions in the cabin, incapacitation could not be a cause of occurrence.

2.6 In-Flight Fire:

There were few reports in the media that aircraft was observed with smoke and fire while coming down. The aircraft is seen burning with thick black smoke and flames in few pictures. The smoke and flames appear to be typical of ground fire. Other fire evidences indicative and with features of ground fire were observed during a walk around of the wreckage site. However the examination of the wreckage revealed that there were no signs of any in flight fire with the major aircraft parts and engines at crash site. The engines (turbines) were inspected for any evidence of fusion or adhesion of materials but no such evidence was observed. The tail section also did not reveal any in flight fire marks. The ground was also clear of any major burning marks. The bushes and wild growth around four engines was free of any major fire. The area did not give general evidence of a burning aircraft before crash. Rather few important parts were totally saved even from the ground fire. For instance the tail section and cargo consisting milk packets, medicine cartons and water bottles were found scattered around with out any fire including ground fire.

It was felt that had it been a plain area; there would have been more burning of the aircraft after crash due to fuel on board. It is estimated that due to disintegration of aircraft after crash and distribution of parts between gorges and deep ravines in that area, the parts got away from the fuel which splashed and caught fire; and only scattered ground fire took place which did not produce molten materials along airstreams or airflow during flight. Pieces of molten materials were found but in the direction of gravity and not in the direction of airflow. It appeared very clearly that there was no in flight fire before the impact. Hence it can be concluded that in flight fire was not a cause of occurrence.

2.7 In-Flight Structural Failure:

The wreckage area was inspected for any in flight structural failure. It was seen that the entire wreckage was confined in an area about 70 meters wide to 200 meters long. The main impact area contained main fuselage and crew cabin. The spread and position of major parts was in line with expected wreckage spread taking into consideration the speed and momentum of parts after break up due to impact. There was no crater at the main impact area, no heavy parts or nose area has gone deep into the soil, indicating that the aircraft came to the ground at very low angle of pitch. The area around main wreckage contained landing gears, engines, cockpit windows and cargo load. The tail section was lying down a hillock before the main wreckage. However only few parts including a rod were found close to a ridge higher than the impact area and farthest from this area, at least 700 meters. The crash site was not plain, it has uneven surfaces and there were deep ditches all around.

Heavy parts such as engines and landing gears were found rolled and settled down in the narrow and deep gorges between ridges. The wreckage spread indicated that there was no evidence of any in flight structural failure.

2.8 A technical defect leading to Air Crash:

The history of air crashes and there investigations in the past few decades have provided enough evidence and logic that as long as the aircraft has enough power to maintain airborne conditions and its flight controls are operating; the aircraft have not crashed so suddenly that there is no message from the aircrew.

The wreckage examination shows that all the four engines were producing high power and all the flight controls were still intact. The most critical flight controls under any emergency are rudder and elevator assemblies. When the site was visited even after 20 days of crash; the most relevant material evidence was still there. The complete tail section with elevator and rudder was lying and few locals were trying to reduce it into transferable parts. Similarly four engines, especially the turbines and exhaust sections were still there. It may be noted that the crash site was only accessible either by high powered jeeps, land cruisers or donkeys; and as it was not possible for locals to take away heavy parts through automobile due to security, it was only donkeys which were being used to take away portions of major heavy parts after cutting /breaking these parts into smaller pieces.

A close on site examination of the four engines revealed that these were producing high power. The turbine blades were sheared off indicating high RPM at impact. There was no indication of any compressor failure or compressor stall of any engine. The four engines and tail section were lying very close to the main impact area. Hence possibility of an engine or control failure leading to the unfortunate crash was ruled out by SIB, CAA Pakistan.

2.9 Discussion of the Draft Report with Interstate Aviation Committee (IAC), Russia

The draft of the investigation report was discussed with aircraft accident investigation experts at Russian Interstate Aviation Committee at Moscow in May 2008. IAC based its analysis for the investigation on four following sources of evidence:

- (a) Deformed tape reel from the MCPП-64-2 flight data recorder of the IL-76 №.64926 (4L-ZIL).
- (b) Extract from the crew-controller radio exchange taken from the ATC recorder.
- (c) Copy of the sound data from the CVR MC-61B of the IL-76, registered GGZ-1614 (Call-sign GGZ-1164).

- (d) Data from the ATC radar concerning the azimuth, range, altitude and coordinates of the position of the aircraft.

The IAC, in the light of previous occurrences and information from previous flights of IL-76 from Kabul to Bagram constructed a probable flight path which is attached to its analysis. It finalized the occurrence as maintenance factor, a failure of direct current supply leading to total navigational aids failure. The findings from Russian IAC analysis are reproduced here for readers; which shows that how findings depends on evidence. See also **Appendix 'P'**.

Findings of Russian Interstate Aviation Committee (IAC):

(a) Approximately from 05:21:09 (4th minute of the flight) and until the crash; the two-way communication between the Controller and the crew of the IL-76 №64926 (4L-ZIL) was absent. The absence of radio communication of IL 76 (MA) with Bagram Tower and the IL-76 Brickyard 41 as well as the deviation from the course to the north-west can serve evidence that probably from 05:21:09 there was malfunction of the navigation equipment, radio communication and aircraft transponder due to a fault in electrical supply.

(b) Probably the aircraft took off with electrical system supplied with direct current from batteries with inoperative rectifiers. As the analysis of the electrical system shows, probable faults might have been: lack of alternating current voltage on the rectifier buses; failure of the electrical controls of the rectifier relays connecting to the relative distributive buses.

(c) According to Bagram Tower, the weather conditions at Kabul at 05:22:27 were as follows: *estimated wind calm, visibility 5000 m, haze, clouds at 1200 ft (400 m) insignificant, temperature 8, QNH 1021.* (Appendix 2).

(d) Under these weather conditions (haze, clouds 400m) the aircraft was deviating from the course Kabul-Bagram to the north-west, probably with inoperative navigation equipment and lack of communication with the Controller or crews of other aircraft due to probable fault indirect current supply.

(e) The crew probably started descent from approximately 05:23:36 in order to establish more reliable visual contact with the ground, which led to the crash at 6954ft (2120m) with a range of 28.6 km from Kabul and azimuth of 322°.

(f) It does not seem possible to determine the actual cause of the lack of communication and the aircraft deviation to the north-west due to the absence of flight data and cockpit voice recorders from the IL-76 №64926 (4L-ZIL).

2.10 Evidence received from ISAF / NATO – A breakthrough in Investigation:

The investigations in the first week of August 2008 were being finalised on the basis of evidence collected from wreckage site and investigation report of Russian IAC. However, the vital information received from ISAF/NATO on 5th August 2008 brought new evidence which changed the findings. It determined the cause of occurrence more precisely than a "probable failure of direct current supply".

The information received from ISAF / NATO Headquarters in Afghanistan consist of an "Accident Briefing Paper by Federal Aviation Administration , USA, Report by Flight Safety officer on the day of accident (KAIA REPORT), Radio Transcription between Kabul Tower Local Controller and Pakistan Call sign MA which are respectively attached as **Appendices 'Q', 'R', 'S', 'T' and 'U'**.

According to these reports the aircraft was in contact with Kabul local area controller till it said good bye to it at 05 22 15 UTC. It changed to Begram frequency and was in contact. It was not allowed landing at Begram and was holding at 10,000feet 10 Nm SW of Begram. It was this position that it lost contact with all air/ground contacts. It was here that the wreckage was spotted by F-16s.

The analysis of the wreckage spread and absence of other evidence such as for in-flight fire or structural failure and others as discussed in previous paragraphs coupled with the fact that aircrew did not transmit any difficulty before crash indicate high probability of a controlled flight into terrain. It is clear that crew never realized that the aircraft was going to hit the ridges and ground. The weather which has been reported cloudy with patches might have contributed to the occurrence. Few parts which are found farthest from the main wreckage along a ridge and were without any ground fire marks appear to be the evidence of first skid or touching the ground by the aircraft. Photographs of these parts have been sent to manufacturers in Georgia through Russian IAC but due to inadequate arrangements through Bis 83, the identification is still awaited.

3. FINDINGS

- 3.1 The aircraft was inspected by a team of CAA Pakistan Airworthiness Inspectors before its dry lease to Royal airlines. There were few minor discrepancies which were removed before routine operations.
- 3.2 The aircraft was airworthy for the flight and was on its second last scheduled sector between Kabul to Bagram.
- 3.3 The aircrew was operational and validated for RT phraseology.
- 3.4 Its maintenance documents could not be scrutinized due to inadequate arrangements under Bis 83.
- 3.5 The aircraft landed safely at Kabul and was ready for flight to Bagram at 0510 UTC.
- 3.6 The aircraft took off from Runway 29 from Kabul and changed over to Bagram: since it was not cleared to approach Bagram, the aircraft was holding at 10,000' 10 NM where it lost contact with Bagram.
- 3.7 It did not respond to the calls of Bagram controller, another IL 76 which took off from Bagram using runway 21 and an aircraft with call sign BRIK41.
- 3.8 Its wreckage was located by an F-16 in the small hillocks in the north of Kabul valley
- 3.9 It caught fire after crash and it appeared from the crash site that it had crashed with a shallow angle while in decent mode while five NM from Bagram.
- 3.10 All crew on board died as a result of crash. The remains were recovered by Afghan authorities and later handed over to Royal airlines for identification.
- 3.11 DNA testing and other examinations were conducted in Pakistan. The remains were handed over to the heirs after DNA tests.
- 3.12 The aircraft wreckage was disturbed and looted by Afghan locals before the arrival of civil police.
- 3.13 The main FDR box was found empty, as if someone has taken it from the wreckage and left the case.
- 3.14 The standby FDR was examined in Moscow with the help of Russian Interstate Aviation Committee; however the tape contained data only till 29 September 2005.

3.15 The aircraft was flying with only one FDR since September 2008, an indication of poor safety oversight for aircraft registered in one state and operated from another state. Bis 83 guidance not followed.

3.16 The flight parameters for the eventful flight could not be obtained.

3.17 The aircraft wreckage did not contain any evidence of sabotage, in flight fire, structural failure or ground fire.

3.18 The aircraft was on hold at 10,000 feet due to non availability of Bagram.

3.19 It crashed 10 Nm SW of Begram due weather, a case of CFIT.

CAUSE OF OCCURRENCE

Controlled Flight Into Terrain (CFIT), weather being the contributory factor.

FINALIZATION

The investigation is finalized as Human Factor – Aircrew – Avoidable

4. RECOMMENDATIONS

4.1 Provisions and guidelines given in Bis 83 be followed in letter and spirit while inducting an aircraft for operations by Pakistan Operator.

4.2 A memorandum of understanding be signed with Interstate Aviation Committee, Russia for coordination in case a original USSR vintage aircraft is crashed and Pakistan is either a state of operator, occurrence or has an interest in it.