

CONFIDENTIAL



PAKISTAN CIVIL AVIATION AUTHORITY
Safety Investigation Board



INVESTIGATION REPORT

INTO SERIOUS INCIDENT OF LANDING ON UNASSIGNED
RUNWAY BY PIA B-737, PK-326, AP-BFT
ON 30 SEP 2009 AT QUETTA

INVESTIGATION REPORT

SERIOUS INCIDENT TO M/S. PIAC AIRCRAFT B737-300, REG. NO. AP-BFT FLIGHT NO. PK-326 AT QUETTA AIRPORT ON 30-09-2009

Synopsis:

On 30th September 2009, PIAC B-737-300 Aircraft, Reg. No. AP-BF, Flight No. PK-326 was on scheduled flight from Karachi to Quetta. It was under supervision (U/S) flight for under training Cadet Pilot, as First Officer. On arrival at overhead Quetta, aircraft carried out VOR approach for Rwy-13, as ILS was not then provided at Quetta runway. Visibility reported by ATC was 3 KM. Pilot flying was Cadet Pilot for this sector. While on inbound leg, visual contact with the airfield was picked up by the aircrew before reaching Minimum Descent Altitude (MDA). Later, when ATC observed the aircraft to be in line with Parallel taxi-way 13R, and still continuing the approach on Parallel taxi way, ATC advised aircraft to go around. However, Captain decided to landing on Parallel taxi way, as he considered it was now late for him to initiate go around at this stage of flight.

There were no object / vehicles on the parallel runway. Aircraft managed to safely stop and taxied to park on civil apron. There was no injury caused to any occupants, any person on the ground. No damaged was observed to aircraft or any other facility on ground.

The investigation was undertaken vide Director General Civil Aviation Authority Memorandum No.HQCAA/1901/332/SIB dated 1st October 2009.

1. FACTUAL INFORMATION:

- 1.1 **History of the Flight** : PK-326 Karachi – Quetta
- 1.2 **Injuries to Persons** : Nil.
- 1.3 **Damage to Aircraft** : Nil
- 1.4 **Crew Information:**

- 1.4.1 Capt. Muhammad Ayaz : Pilot-In-Command, Line Instructor (P # 48033)
- 1.4.2 First Officer Furrukh Chohan : Safety Pilot to Cadet Pilot, P # 60685
- 1.4.3 Cadet Pilot Fahad Ali : Cadet Pilot (Pilot Flying) P # 63838

1.5 Aircraft Information: Boeing737-300, Reg. No. AP-BFT

1.6 Aerodrome Information: Quetta International Airport is a joint user airfield, and located on the western edge of Pakistan at an altitude of 5,267ft above sea level. Quetta Airport is the fourth highest airport in Pakistan in a valley-like surrounding with high mountains around and cold temperatures during winters. The airport is capable of day and night flight operation. PIAC has regular domestic and international flights to Quetta. A military aviation establishment is situated towards the Sothern side of the airport.

1.7 ATC Tape Extract: R/T tape extract was retrieved for analysis.

1.8 CVR / DFDR Readouts: FDR and CVR readouts were retrieved for analysis, however, CVR extract did not contain recording of related event as it could not be preserved by the PIAC aircrew or engineering staff.

1.9 Weather Condition: The weather reported by local Met Office was; visibility 3 km, haze; wind SE 04 Kts. Temperature / Dew point was 18/07, Relative Humidity 49%, and QNH 1019.8 mbs / 3011 inches. There was no other significant weather phenomenon prevailing at the time of incident. Whereas, after landing aircrew stated to be 1.5 km on finals.

- 1.10 **Aircrew Medical Examination:** Following the incident on 30th September 2009 at Quetta, Blood and Urine samples of all the three cockpit crewmembers (Pilot-In-Command, First Officer & Cadet Pilot) were taken to Aga Khan Lab. No sign of alcohol / psychoactive were observed. The blood and sugar levels were also found within normal limits.

2. ANALYSIS:

2.1 Technical Analysis:

- 2.1.1 There was no malfunction of aircraft, any of its systems including FMS, Navigation and VOR system etc reported by any of the pilots or CNS Engineering department of CAA.

2.2 ATS Analysis:

- 2.2.1 Quetta is a joint user airfield for CAA and PAF. The Air Traffic Services are provided by PAF ATCOs. There is one Runway 13/31 with a length of 12000ft and 150ft wide. There lies another surface, Parallel Taxi way of 12000ft long and 110 ft wide which is also painted with runway markings. The taxi track has shoulders on both sides too. Runway markings on parallel taxiway were more prominent due to its lesser use and black colour surface.
- 2.2.2 The parallel taxiway is used as an emergency recovery runway only by military aircraft, which is mentioned in AIP Pakistan Page No. AD2. OPQT-4 as a note. AIP Pakistan vide Para OPQT AD 2.23 also specifies extreme caution for pilots for not mistaking parallel taxiway as runway. However, parallel taxi way having runway marking is not included in AIP.
- 2.2.3 At the time of incident, navigational aids VOR, NDB and PAPIs were available for Runway13. On in-bound heading, aircraft loose inbound radial 134 for some time while passing over the VOR located at 02NM on final Runway-13. Therefore, when passing over the VOR, it is likely to cause navigational difficulty in identification of correct runway especially in low visibility / haze conditions coupled with runway-like markings on adjacent Parallel Taxi way. However, such a situation can be negated by adhering to SOPs and conducting thorough pre-brief by the Captain on airfield layout.
- 2.2.4 **Conclusion:** Ineffective pre flight brief about the existence of parallel taxiway with runway markings vis-a-vis inadequate corresponding information in AIP mislead aircrew while recognizing the correct runway.

2.3 Operational Analysis:

- 2.3.1 Line Captain was an experienced pilot having flown numerous flights between Karachi – Quetta – Karachi. The First Officer had also been to Quetta a number of times. It was, however, the first time for Cadet Pilot, totally an inexperienced trainee, to take any flight to Quetta as under training pilot flying.
- 2.3.2 Because of the prevalent colour schemes of runway surfaces, the parallel taxi way stands out prominently than the main runway in poor visibility condition. Moreover, threshold and centre line marking on parallel taxi way make it similar to a runway, if one is not aware of these facts as mentioned in AIP.
- 2.3.3 Aircrew briefing for the flight was undertaken in general. The Cadet Pilot was not well aware of the phenomenon of poor visibility conditions and haze during the months September-November. Though, as stated, arrival briefing did highlight the approach procedure, VOR approach, missed approach and diversion, but did not elaborately cover AIP details, the layout of Quetta airfield, approach and PAPI lights arrangement, runway markings etc. The Cadet Pilot remained ignorant of there being a parallel runway on to right side of RWY-13.

- 2.3.4 VOR approach by PK-326 on incident day seemed eventless till aircraft turned inbound on finals R/W-13. Safety Officer sitting on the jump seat announced visual with the airfield at approximately 6 kms by seeing the Threshold. Cadet Pilot continued with the landing on the runway which was announced by Safety Officer, and stated to pick up visual at 4 kms. The Captain, however, continued without being positively visual with the intended runway. Later, Captain altered the heading accordingly to align with the intended runway. Initially, ATC did not clear the aircraft, being not visual, and asked to continue approach. The flight was, however, cleared for landing at 091519LT, after aircraft was picked up visual by ATC.
- 2.3.5 Aircraft continued approach for the runway in sight till such time i.e. at 091557LT; ATC observed it to be aligned with the Parallel Taxi Way the aircraft was then asked to go around. However, Captain considering it to be late, decided to land straight out of same approach on Parallel Taxi Way-13R.
- 2.3.6 In this particular case, as Cadet Pilot was the pilot flying, did not get adequate guidance either from Line Captain or from Safety Pilot to the fact that this was in-correct surface to approach. There was not much effort by either of the aircrew (Captain and Safety Pilot) to look for correct surface to land.
- 2.3.7 Though, there existed haze and sun reflection, various other cues like runway designator (13 vs 13R), the runway width (150 vs 110 feet), non availability of approach and PAPI lights on parallel taxi way were not utilised for differentiating between main runway and parallel taxi way.
- 2.3.8 In the absence of CVR recording of the event flight, actual conversation which had taken place between cockpit crew members while picking up visual contact with the airfield, acknowledgements exchanged between aircrew and assigning responsibility etc could not be accurately ascertained and analysed. FDR extract though available, did not provide required input.

3. CONCLUSION

- 3.1 Though, there existed haze conditions, yet it was enough to pick up visual with the Runway from 4-6 KMs as it was possible for the Safety Officer and the Cadet Pilot. Lack of effective consultation of AIP, inadequate briefing to Cadet Pilot flying the aircraft, as well as less than required attentiveness of Captain of aircraft and Safety Pilot to perform their respective duties assigned in FCOM caused the serious incident of landing on runway not assigned.
- 3.2 **Cause of Occurrence:** Lack of implementation of CRM and deviation from established procedures by aircrew on board resulted in landing on unintended runway.
- 3.3 **Observations:**
- 3.3.1 Aircrew are normally provided with Jeppeson plates, whereas AIP provides greater information on each airfield, was not the practice by aircrew.
- 3.3.2 There seemed less than required consideration while detailing a Safety Pilot with a Cadet Pilot under training.
- 3.3.3 Neither the aircrew nor the engineering staffs was aware of the requirement of preservation of flight recorders in such a situation indicated towards less than required awareness.

FINDINGS:

- 4.1 Aircrew were adequately rested and fit to undertake the flight.
- 4.2 Aircraft was airworthy and its Flight Management System (FMS) and other related equipments were functioning normally.
- 4.3 Adequate arrival briefing was not provided to Cadet Pilot.
- 4.4 The visibility had imposed difficulty in picking up field in sight, but as Safety Pilot and Cadet Pilot picked up visual with the airfield at approximately 6 and 4 kms respectively, provided enough time to ascertain correct runway.
- 4.5 On sighting the runway-13R (instead of designator 13), none of the aircrew demanded visual with RWY-13.
- 4.6 Line Captain and Safety Pilot were not attentive enough to avert landing on un-intended runway.
- 4.7 Threshold marking and centre line on the parallel taxi way were confusing under inadequate knowledge of airfield coupled with prevalent meteorological conditions.
- 4.8 AIP Pakistan and Jeppeson charts do indicate existence of parallel taxi way and it is being used as runway by military aircraft, were not kept in to consideration while landing on wrong runway.
- 4.9 Availability of ILS could have averted the occurrence

5. SAFETY RECOMMENDATIONS: Re-assigning the Runway Designator as 13L/31R & 13R/31L to main parallel runways respectively, and installation of ILS on Runway13L has improved the situation, yet following safety recommendations are made;

- 5.1 Effective implementation of CRM needs special emphasis by PIAC and DFS.
 - 5.2 Line Captains be emphasized upon carrying out detailed briefings to under training pilots, and needed to be alive to such like situations.
 - 5.3 Training department of PIAC to devise means to ensure implementation on SOPs / FCOM contents.
 - 5.4 Training department of PIAC to study / examine the profiles of trainers and safety pilots to determine their suitability for scheduling on such slots.
 - 5.5 The existing parallel taxiway/runway be declared as a Runway-13R/31L with appropriate category / usage, and AIP be amended accordingly.
 - 5.6 All Operators to ensure that their aircrew and engineering personnel are aware of, and are trained for preservation of Flight Recorders following an incident/serious incident or Accident.
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