



STATE COMMISSION ON AIRCRAFT ACCIDENT INVESTIGATION

Occurrence reference No: 366/14

RESOLUTION

of

State Commission on Aircraft Accident Investigation in the following composition:

Chairman of the meeting	
Chairman of the Commission:	D. (Eng.) Maciej Lasek
Deputy Chairman of the Commission:	MSc (Eng.) Andrzej Pussak
Member of the Commission:	D. (Eng.) Michał Cichoń
Member of the Commission:	D. (Eng.) Dariusz Frątczak
Member of the Commission:	BA Robert Ochwat
Member of the Commission:	MA Tomasz Kuchciński
Member of the Commission:	MSc (Eng.) Jerzy Kędzierski
Member of the Commission:	Eng. Tomasz Makowski
Member of the Commission:	MSc (Eng.) Bogdan Fydrych

At the meeting held on 16 April, 2014 the Commission examined the results of the investigation into the air occurrence involving Boeing 737-700 (B737) and Boeing 787-8 Dreamliner (B788) airplanes, which occurred on 27 March, 2014 in the TMA and CTR of the Warsaw Chopin Airport (EPWA) airspace. The investigation was conducted by the respective airspace management unit. State Commission on Aircraft Accident Investigation, acting under **Article 5 par. 3 of the Regulation (EU) No 996/2010 of the European Parliament and of the Council on the investigation and prevention of accidents and incidents in civil aviation and repealing Directive 94/56/EC** (EU Journal of Laws L. 2010.295.35) accepted the findings of the above mentioned unit and decided to close the investigation.

Course and circumstances of the occurrence:

During ILS approach to landing on the runway 33 at EPWA aerodrome, the EPWA TWR Controller (ATCO) informed the B737 flight crew about the possibility of interference B737 Glide Path (GP) due to a B788 taxiing in the antenna area.

During further descent in IMC conditions with autopilot (AP) and autothrottle (AT) engaged at the altitude of about 1500 feet the GP indicator moved down to the end of the scale. After noticing the malfunction of the GP indicator the crew immediately disengaged AP and AT. Then the GP indicator moved in the extreme upper position. In the meantime the aircraft entered VMC conditions, so the crew performed visual approach and landed safely.

FACTS

11:17:59 hrs - B788 gets GND ATCO clearance to start engines and push back from stand 15.

11:19:57 hrs - B737 gets APP ATCO clearance for descent to 3000ft and ILS approach to RWY33.

11:24:45 hrs - B787 gets clearance to taxi behind "Follow me", TWY O, A, and to stop short of RWY 29 .

11:27:05 hrs - B788 is transferred to communicate with TWR at the frequency of 118,3 MHz.

11:27:10 hrs - B788 gets TWR ATCO clearance to cross RWY29 and to continue taxiing via TWYA.

11:29:17 hrs - B737 reports to APP ATCO ILS RWY33 localiser established.

11:29:18 hrs - APP ATCO transfers B737 to contact with TWR at the frequency of 118,3 MHz.

11:29:21 hrs – TWR ATCO requests APPS PC ATCO to warn the B737 crew that the B788 is going to taxi via TWYH1 and to draw their attention to a possible malfunction of ILS.

11:29:33 hrs - LOT1 gets clearance to cross RWY33 and continue via TWY H, B to RWY33 holding point.

11:29:47 hrs - reports to TWR ATCO ILS RWY33 localiser established.

11:29:51 hrs - TWR ATC orders the B737 crew to continue approach and informs about B788 crossing RWY33 via TWYH which may possibly cause GP interference.

11:30:02 hrs - B737 crew acknowledges receipt of the information.

11:30:09 hrs - APPS PC ATCO informs TWR ATCO that they failed to pass the information to B737, because during their earlier conversation APPS EC ATCO transferred B737 to communicate with TWR.

11:30:45 hrs - B737 crew gets clearance to land.

11:32:14 hrs - B788 gets clearance to use RWY33 after B737 (on short approach).

11:33:45 hrs - B737 crew is transferred to contact with GND at the frequency of 121,9 MHz.

11:34:03 hrs - B737 crew reports to GND ATCO on TWY S2.

11:34:06 hrs - B737 crew is instructed to taxi behind "Follow me".

11:34:29 hrs - B788 gets clearance for takeoff from RWY33.

11:35:39 hrs – GND ATCO asks B737 crew about GP interference during crossing RWY33 by the B787 via TWY H.

11:35:51 hrs - B737 crew confirms the occurrence of GP interference.

11:39:57 hrs - B737 crew asks the GND ATCO about a phone number to the TWR ATCO.

FINDINGS

1. Two airplanes took part in the occurrence:

- B788 (EPWA - KORD) taxiing via TWY H1 at EPWA;
- B737 (EHAM- EPWA) on ILS landing approach to RWY33 at EPWA.

2. APP ATCO did not receive information about the B788 taxiing to the RWY33.

3. Too late coordination of TWR ATCO with APP ATCO on crossing RWY33 by B788.

4. TWR ATCO warns B737 crew of possible ILS GP RWY33 interference caused by B788 crossing RWY33 via TWY H1. In a later ASR the B737 crew confirmed ILS GP RWY33 interference.
5. Movement situation improperly planned by the TWR ATCO. RWY33 crossing by the B788 could had taken place after the B737 landing, which would allow to avoid the occurrence of the incident.
6. Analysis of recording of the VCS SEN TWR EPWA telephone channel (at approx . 11:40 hrs UTC) indicates that the receiver was improperly put down (environment sounds recorded on the telephone channel), which prevented the B737 crew from getting access to the TWR telephone. SUP ATM Report of 27/28.03.2014 does not contain any information about the occurrence.
7. The B737 crew described the occurrence in an Air Safety Report. The Report was submitted by SCAAI to PANSO on 02.04.2014, (e-mail).

CONCLUSIONS RESULTING FROM THE OCCURRENCE

1. The occurrence was not classified as an incident in the air traffic but as an event specific to the ATM - fault of the navigational functions. There was a partial loss of the ability to ensure the efficiency of a land-based navigation system resulting from shadowing by an obstacle the GP ILS33 signal, which caused that the continuous maintenance of the required efficiency of the aircraft navigation became impossible.
2. APP ATCO had no information about the B788 taxiing for takeoff.
3. The current practices do not allow TWR ATCOs to meet their obligations resulting from the relevant regulations and guidelines. A TWR ATCO not always has an impact on the efficiency of executing orders by the taxiing crews, especially if the maneuver takes place on a runway to back-track position. As the transfer of an aircraft performing ILS approach from APP to TWR can only occur in the case of a confirmed localiser established, the only way seems to be the appropriate action in the initial and/or intermediate approach segment, allowing reduction of an aircraft speed to the final approach speed, delay of its beginning or a complete change of the approach type. In each of these cases the initiator of such actions (except explicit request of the crew) can be only APP ATCO. The problem is not the need of them but the way for their implementation, which should be decided and published.
4. Pass a note to the TWR Manager and the APP Manager to consider (until putting into operation TWY A8) ways of co-ordination between TWR and APP services aimed at enabling TWR ATCO “leading” a taxiing aircraft up to takeoff or vacating RWY15 and/or TWY M and TWY B.
5. In the context of the Conclusion No. 3 consider sending a query to the B788 operator about feasibility of takeoff from RWY33 commencing at its intersection with TWY H2 or from RWY29. The question is justified by the Safety Recommendation No. 4/2013, which resulted from interference to the GP and complications of air traffic control at EPWA, caused by the aircraft taxiing via TWY H1. If the takeoffs commencing at TWY H2 would not be feasible, the operator should be informed of possible delays of takeoffs until TWY A8 is operational.

Causes of the air incident:

Shadowing by an obstacle (B788) the GP ILS33 signal, which caused a partial loss of the ability to ensure the efficiency of a land-based navigation system and continuous maintenance of the required efficiency of the aircraft navigation.

Measures taken by the airspace management unit:

1. Pass the Final Report to the Office of Air Traffic Services in order to introduce special supervision of implementation of the following requests directed to the AIT and AKZ and compliance by the subordinate staff with the Safety Recommendation No. 4/2013 issued 26 November 2013. In addition, AB office informs that since the release of the above Safety Recommendation three cases of non-compliance have already occurred.
2. Pass the Final Report and the collected materials to the Warsaw Airport Control Department in order to urgently:
 - a) develop detailed guidelines for the staff (together with the Head of AKZ Department) related to coordination in the situation described in the item 3 of the Conclusions resulting from the occurrence;
 - b) consider sending to the national operator a query described in the item 4 of the Conclusions resulting from the occurrence;
 - c) analyze the event together with the concerned ATCO and discuss his errors.
3. Pass the Final Report and collected materials to the Warsaw Approach Control Department to urgently:
 - a) develop detailed guidelines for the staff (together with the Head of AIT Department) related to coordination in the situation described in the item 3 of the Conclusions resulting from the occurrence;
 - b) analyze the event together with the concerned ATCO and discuss his errors.

The Commission has formulated **a safety recommendation:**

Airspace management unit:

Identify influence of foreign objects (e.g. large vehicles on TWY H1) on GP indication.

Commission Comment:

In the context of the above mentioned actions undertaken by the airspace management unit - consider the practice of asking crews (at the stage of issuing the clearance to start engines) about their willingness to take off from RWY33 beyond TWY H2. The question is to be justified by the Safety Recommendation No. 4/2013, which resulted from interference to the GP and complications of air traffic control at EPWA. If the takeoffs commencing at TWY H2 would not be feasible, the crews should be informed of possible delays of takeoffs until TWY A8 is operational.

Investigator-in-Charge

Msc (Eng.) Bogdan Fydrych *signature illegible*