



MINISTRY OF TRANSPORT, CONSTRUCTION AND REGIONAL DEVELOPMENT OF THE SLOVAK REPUBLIC

Aviation and Maritime Investigation Authority
Námestie slobody 6, P.O.BOX 100, 810 05 Bratislava 15



Reg. No. SKS2013008

FINAL REPORT

on investigation of serious incident
unauthorized entry of vehicle to active RWY04

Date: 31.08.2013

Place: M.R. Štefánik Airport Bratislava / LZIB

The investigation of occurrence has been conducted pursuant to Art. 18 of the Act No. 143/1998 on Civil Aviation (Civil Aviation Act) and on Amendment of Certain Acts and in accordance with the Regulation (EU) No. 996/2010 of the European Parliament and of the Council on investigation and prevention of civil aviation accidents and incidents, governing the investigation of civil aviation accidents and incidents.

The final report is issued in accordance with the Regulation L 13 that is the application of the provisions of ANNEX 13 Aircraft Accident and Incident Investigation to the Convention on International Civil Aviation.

The exclusive aim of investigation is to establish causes of accident, incident and to prevent their occurrence, but not to refer to any fault or liability of persons.

This final report, its individual parts or other documents related to the investigation of occurrence in question have an informative character and can only be used as recommendation for the implementation of measures to prevent occurrence of other accidents and incidents with similar causes.

ABBREVIATIONS

Abbreviation	English meaning
APN	Apron
APP	Approach control office r
BTS	Abbreviation in the IATA code for M.R. Štefánik Airport in Bratislava
ILS	Instrument landing system
LK BTS	Company Letisko M.R. Štefánika – Airport Bratislava, a.s.
LPP	Air traffic areas
LPS SR, š.p.	Letové prevádzkové služby Slovenskej republiky, štátny podnik
LZIB	Abbreviation in the ICAO code for M.R. Štefánik Airport in Bratislava
MoTCRD SR	Ministry of Transport, Construction and Regional Development of the Slovak Republic
MHz	Megahertz
PRED	Operation dispatching center
RC	Radar Controller of TWR
RWY	Runway
THR	Threshold
TWR	Aerodrome control tower or aerodrome control
TWY	Taxiway
UTC	Co-ordinated Universal Time

A. INTRODUCTION

Operator / Owner: EKOFIM, s.r.o. / VB LEASING SK, spol. s.r.o.
Type of operation: training flight
Type of aircraft: DA 42 NG Twin Star
Registration No.: OM-RWI
Location: LZIB
Flight phase: take-off
Site of serious incident: crossing of RWY31 and RWY04 LZIB
Interested ground units: LPS SR, š.p., ŠTEFÁNIK TOWER 121.7 MHz
ŠTEFÁNIK TOWER 118.3 MHz
LK BTS - PRED

Date and time of occurrence: 31.08.2013, 13:18 - 13:51

Note: All time data in this report are stated in the UTC time.

B. INFORMATIVE SUMMARY

On 31 August 2013 the employee of LK BTS - PRED ("PRED") implemented a regular check of operability of the manoeuvring areas of RWY04/22 and RWY13/31. In the end of RWY04 he left RWY04/22 and proceeded with the check of the lights of the approaching lighting system.

During the inspection of manoeuvring areas the aircraft type DA 42 NG Twin Star, registration No. OM-RWI (hereinafter "DA42"), started the take-off from RWY04 LZIB.

At the time of aircraft taxiing (at the level of connection of TWY A) the PRED employee with vehicle with call sign "OPERATION" (hereinafter "OPERATION") on frequency of 121.7 MHz entered the area of threshold of RWY22 without authorization from the vehicle controller with call sign "ŠTEFÁNIK TOWER" (hereinafter "ŠTEFÁNIK TOWER").

With authorization from ŠTEFÁNIK TOWER with call sign „ŠTEFÁNIK VEŽA/ŠTEFÁNIK TOWER on frequency 118.3 MHz (hereinafter "ŠTEFÁNIK TWR") the aircraft crew rejected the take-off and with intensive braking stopped the aircraft on RWY04, just in front of the crossing of RWY04/22 and RWY13/31.

During braking the tire of left-handed main wheel unit blew up and the aircraft became immobile.

The aircraft crew and the driver of vehicle did not suffer any injury.

The following persons were appointed for investigation of serious incident:

Ing. Igor BENEK - chairman of the investigation commission
Ing. Ivo HRUŠOVSKÝ - member of the investigation commission
Ing. Mária KOVÁČOVÁ - member of the investigation commission

The report is issued by:

Aviation and Maritime Investigation Authority
of the Ministry of Transport, Construction and Regional Development
of the Slovak Republic

C. MAIN PART OF REPORT

1. FACTUAL INFORMATION
2. ANALYSES
3. CONCLUSIONS
4. SAFETY RECOMMENDATIONS

1. FACTUAL INFORMATION

1.1 Description of serious incident

On 31 August 2013 OPERATION implemented a regular check of operability of manoeuvring areas of RWY04/22 and RWY13/31 on LPP. LPP were in use (were not closed).

This procedure was in compliance with internal document of LK BTS – organizational standard ON-03/2005 Traffic regulations of M.R. Štefánik Airport in Bratislava and SM-REV/03.

At 13:11:19 OPERATION logged in on frequency of 121.7 MHz and informed ŠTEFÁNIK TOWER about the request for regular check. It applied for authorization for entry from APN via TWY A and TWY D to RWY04 and for switching of lights on TWY A, TWY D and RWY04. OPERATION received from ŠTEFÁNIK TOWER the authorization for entry to TWY A, TWY D and RWY04.

At 13:12:40 the pilot of aircraft DA42 logged in on frequency 118.3 MHz and informed ŠTEFÁNIK TWR, that he was in the area between hangars, ready for taxiing.

At 13:13:14 ŠTEFÁNIK TWR allowed the pilot of aircraft DA42 to taxi and enter RWY04 via TWY A, which the pilot confirmed.

At 13:13:55 OPERATION requested ŠTEFÁNIK TOWER for the authorization to cross RWY13 and obtained it. After crossing RWY13, OPERATION reported to ŠTEFÁNIK TOWER VEŽA the completion of crossing.

At 13:15:30 OPERATION reported to ŠTEFÁNIK TOWER that it was outside RWY22, in the area of approach to RWY22, and requested ŠTEFÁNIK TOWER to switch on the lights of approaching light system of RWY22.

At 13:16:07 the pilot of aircraft DA42, situated on RWY04 (near the connection of TWY A to RWY04) received from ŠTEFÁNIK TWR the take-off clearance together with data on wind direction and speed.

At 13:18:23 OPERATION again called ŠTEFÁNIK TOWER to inform them that it was back on RWY22 and that they can switch off the lights as well as the lights of approaching light system of RWY22.

At 13:18:32 ŠTEFÁNIK TOWER interrupted the transmission of vehicle OPERATION and ordered OPERATION to immediately clear RWY22. The radio communication was running in simplex mode (when one station is transmitting the other station cannot hear it on the same frequency – disturbed transmission).

At 13:18:38 RC ŠTEFÁNIK TWR ordered the crew of DA42 to reject the take-off and informed them about presence of the vehicle OPERATION in the end of RWY04.

At 13:18:40 ŠTEFÁNIK TOWER ordered OPERATION to immediately clear RWY, because OPERATION did not obtain the permission for entry to RWY22.

At 13:18:47 OPERATION reported to ŠTEFÁNIK TOWER that it was outside RWY22.

At 13:18:52 the crew of aircraft DA42 was informed by ŠTEFÁNIK TWR about penetration of vehicle OPERATION into RWY04 and that they were allowed to taxi back along RWY to the level of TWY A and to get ready for take-off. The crew of aircraft DA42 informed ŠTEFÁNIK TWR that one of the tires probably failed as a result of take-off rejection.

At 13:20:53, after checking the aircraft DA42, the pilot informed ŠTEFÁNIK TWR about failure of the left-handed tire and requested ŠTEFÁNIK TWR for assistance. ŠTEFÁNIK TWR then asked the pilot of aircraft DA42 whether he was able to clear the intersection of RWY13/31 and RWY04/22. The pilot of aircraft DA42 answered "negative".

At 13:41:11 ŠTEFÁNIK VEŽA requested OPERATION to report the estimated time when the aircraft type DA42 would be removed from the intersection of runways.

At 13:41:27 ŠTEFÁNIK VEŽA informed OPERATION that three aircraft were waiting in the air (delay of individual flights: TVQ6317 - 4 min, NJE663 - 23 min, VRJ800 - 32 min) and that they needed to give them estimated time when the airport would be opened for air traffic again. OPERATION answered that in 5 to 10 minutes.

At 13:44:57, after consultation with employees of LK BTS, who organized the removal of aircraft DA42, the controller of ŠTEFÁNIK TWR informed APP ŠTEFÁNIK that RWY31/13 would be cleared in 5 minutes and that RWY04/22 had been checked and was operable.

At 13:49:25 the vehicle OPERATION 2 informed ŠTEFÁNIK VEŽA that it was returning along TWY F to the airport and that RWY31, on which aircraft DA42 was taxiing, was operable.

At 13:51:13 the vehicle OPERATION informed ŠTEFÁNIK VEŽA that it was in a safe distance from RWY31.

Daytime: Day

LPS SR, š.p. reported the serious incident to the Aviation and Maritime Investigation Authority of the Ministry of Transport, Construction and Regional Development of the Slovak Republic.

1.2 Injuries to persons

Nobody was injured.

1.3 Damage to aircraft and vehicle

During intensive braking the tire of the left main-wheel unit, including its inner tube, blew out. The vehicle was not damaged.

1.4 Other damage

No circumstances with potential claims for compensation of other damage toward a third party were notified to the Aviation and Maritime Investigation Authority.

1.5 Personnel information

Pilot instructor:

A national of the Slovak Republic, male, aged of 27 years,

holder of pilot licence CPL(A) No. SK 03080119, issued by the Civil Aviation Authority of the Slovak Republic republiky with marked validity until 05.12.2016.

Medical certificate of 1st class with date of issue 13 March 2013 and marked validity until 15.03.2014.

Flying experience:

Total flight hours: 2792 h 20 min

Pilot:

A national of the Slovak Republic, male, aged of 35 years,

holder of pilot licence PPL(A) No. SK 02090068, issued by the Civil Aviation Authority of the Slovak Republic with marked validity until 19.03.2018.

Medical certificate of 1st class with date of issue 20.09.2012 and marked validity until 22.09.2013.

Driver of vehicle "OPERATION"

Holder of valid licence – limited licence of aeronautical mobile service radio telephonist II, issued by the Telecommunications Regulatory Authority of the Slovak Republic.

Holder of valid driving licence for manoeuvring areas, issued by the company Letisko M.R. Štefánika - Airport Bratislava, a.s. (BTS).

Attended training on internal organizational standard ON-03/2005 Traffic regulations of M.R. Štefánik Airport in Bratislava.

1.6 Aircraft information

Registration No: OM-RWI
Serial No: 42.N101
Year of manufacturer: 2012
Manufacturer: Diamond Aircraft Industries GmbH

Certificate of airworthiness No. 1111/01, issued by the Civil Aviation Authority of the Slovak Republic on 27 July 2012 with marked validity until 24.07.2013,

The last verification was implemented on 16 July 2013, validity of CA was prolonged until 24 July 2014.

Third-party insurance: Allianz - Slovenská poisťovňa, a.s., No. 411 017 368, issued until 19 July 2014.

1.7 Meteorological information

The meteorological situation had no influence on the serious incident.

1.8 Aids to navigation

Not applicable.

1.9 Communications

The aircraft was equipped by onboard radio stations enabling two-way communication with all air stations at every moment of the flight.

The vehicle OPERATION was equipped by radio communication equipment enabling continuous two-way communication with ŠTEFÁNIK TOWER.

1.10 Aerodrome information

The airport LZIB was suitable for air traffic at the time of serious incident.

1.11 Flight recorders

The sound recordings of radio communication between ŠTEFÁNIK VEŽA and OPERATION, between ŠTEFÁNIK TWR and aircraft DA42 were evaluated.

The flight report prepared by the commander of aircraft DA42 was evaluated, too.

1.12 Wreckage and impact information





1.13 Medical and pathological information

Not applicable.

1.14 Fire

No fire broke out.

1.15 Survival aspects

Not applicable.

1.16 Tests and research

Not applicable.

1.17 Organizational and management information

The operator of airport LZIB is a company holding the operating licence valid until 31.10.2013.

1.18 Additional information

Not applicable.

1.19 Useful or effective investigation techniques

Standard investigation methods were used.

2. ANALYSIS

- 2.1 During the take-off of aircraft DA42 z RWY04 the vehicle OPERATION for unknown reasons entered occupied RWY22 without authorization of ŠTEFÁNIK TOWER and thus created an obstacle to the take-off of aircraft DA42 on RWY04.

By its procedure the vehicle OPERATION did not comply with the procedure prescribed in the Traffic regulations of M.R. Štefánik Airport in Bratislava on minimum safe distance from manoeuvring areas used by aircraft and the procedure for entry to sensitive area of ILS, i. e. to area in front of threshold of RWY22 and then to RWY22. The entry to RWY is made conditional upon permission issued by ŠTEFÁNIK TOWER.

On the basis of evaluated recordings it can be stated at the time of occurrence non-standard radio communication was used between ŠTEFÁNIK TOWER and OPERATION, as well as between ŠTEFÁNIK TWR and aircraft DA42, which however did not cause the serious incident (in emergency and uncommon situations non-standard phraseology may be used).

3. CONCLUSIONS / Cause of serious incident

3.1 Findings

- nobody was injured in the serious incident.

Crew of aircraft

- according to the submitted documentation the crew members had valid qualifications for flights with aircraft of given category,
- at the time of occurrence the crew members were not under the influence of alcohol, drugs or common medicines,
- the instructor had sufficient flying experience for this type of flights.

Aircraft

- it had valid documentation and did not show any faults before the occurrence,
- it fulfilled the conditions of airworthiness before the critical flight,
- it was damaged in the serious incident – blowed-out tire and air hose of left-handed main-wheel unit.

Driver of vehicle “OPERATION“

- the driver had valid documents required for performance of the activity,
- the vehicle was not damaged in the occurrence.

3.2 Cause of serious incident

- the vehicle OPERATION for unknown reason entered RWY22 without authorization of ŠTEFÁNIK TOWER and did not follow the instruction to stop in prescribed and marked distance in front of threshold of RWY22 – failure of the human factor.

4. SAFETY RECOMMENDATIONS

Following the investigation of causes of serious incident – unauthorized entry of vehicle to active RWY22, which occurred on **31 August 2013** at M. R. Štefánik Airport in Bratislava, we recommend:

LPS SR, š.p.

- to inform the employees of APP/TWR ŠTEFÁNIK about results of the final report.

The operator of LK BTS

- to analyse the serious incident with interested operating and maintenance units and employees of LK BTS PRED,
- to implement again the training and examination from the organizational standard ON-03/2005 Traffic regulations of M.R. Štefánik AIRPORT in Bratislava, for category “driver – manoeuvring areas“ for employees of PRED,
- to take a system measure to prevent the occurrence of similar case.

Bratislava, 30.09.2013