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In case of inconsistency original version in Slovak language is applicable.*



**AVIATION AND MARITIME INVESTIGATION AUTHORITY**  
Námestie slobody 6, P.O.BOX 100  
810 05 Bratislava 15

# FINAL REPORT

on safety investigation of a serious incident

incorrect action of the ATS Authority, reduction of separation minimum

Reg. No: SKS2019001

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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

AIP	Aeronautical Information Publication
ATC	Air Traffic Control
ATCO	Air Traffic Controller
ATS	Air Traffic Services
BTS	IATA code for the M. R. Štefánik Bratislava airport
EC TWR	Executive Controller of Tower
ft	Feet (dimensional units)
IFR	Instrument Flight Rules
ILS	Instrument Landing System
LKPR	ICAO code for the Václav Havel Prague airport
LZIB	ICAO code for the M. R. Štefánik Bratislava airport
NOTAM	A notice containing information concerning the establishment, condition or change in any aeronautical facility, service, procedure or hazard, the timely knowledge of which is essential to personnel concerned with flight operations.
NM	Nautical Mile
SSR	Secondary Surveillance Radar
THR	Threshold
TWY	Taxiway
TWR	Aerodrome Control Tower or Aerodrome Control
RWY	Runway
UTC	Co-ordinated Universal Time

## A. INTRODUCTION

Aircraft type:	<b>B 737-800-8CX</b>	<b>B 737-800-8AS</b>
Registration mark:	<b>OK-TVO</b>	<b>EI-FOO</b>
Operator:	Smartwings, a.s., Czech Republic	Ryanair Ireland
Operation type:	commercial air transport	commercial air transport
Flight phase:	approaching	take-off
Incident location:	LZIB / RWY 13/31	
Incident date and time:	20/05/2019, 07:23	

Note: All time data in this Report is reported in UTC time.

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## **B. INFORMATION SUMMARY**

On 20 May 2019, the crew of the aircraft B 737-800-8CX, registration mark OK-TVO (hereinafter referred to as the "OK-TVO") ILS performed an approach to RWY31 of LZIB airport.

The crew of the aircraft B 737-800-8AS, registration mark EI-FOO (hereinafter referred to as the "EI-FOO"), was waiting for clearance to take-off from RWY31 at LZIB airport due to delayed release of RWY31 by other operation - flight KLJ3076.

At the time of release of RWY31, the EC TWR issued a take-off clearance for the EI-FOO. At this time, the OK-TVO aircraft was 1.3 NM from THR RWY31.

33 seconds later the OK-TVO crew reported performing a "Go-around". EI-FOO was take off running on RWY31. According to statement of the OK-TVO crew, when the aircraft was 0.1 NM before THR RWY31, they decided to perform a non-standard missed approach procedure by turning left in order to maintain safe separation from EI-FOO.

A committee was set up to investigate the causes of the relevant serious incident:

Lic. Jaroslava MIČEKOVÁ	Chairperson of the Safety Investigating Commission
Ing. Juraj GYENES	Member of the Safety Investigating Commission

The Report has been issued by:

Aviation and Maritime Investigation Authority  
of the Ministry of Transport and Construction of the Slovak Republic.

## **C. MAIN PART OF THE REPORT**

- 1 FACTUAL INFORMATION
- 2 ANALYSIS
- 3 CONCLUSIONS
- 4 SAFETY RECOMMENDATIONS

### **1 FACTUAL INFORMATION**

#### **1.1 History of the flight**

At 05:40 the inspection of the operating areas was started by employee of the BTS Airport - Operational Dispatching. At 05:45:30 the inspection was completed with the reported result "it's wet with puddles, clean, capable of operation".

The crew of the OK-TVO, IFR flight, was performing ILS approach to RWY31 at LZIB airport, the KLJ3076 crew was landing at LZIB airport, the EI-FOO crew was taking off from LZIB airport.

After the flight KLJ3076 landed on RWY31, the OK-TVO was 4.8 NM from THR RWY31 at that time.

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After landing, the KLJ3076 crew reduced the taxiing speed to a minimum, wanting to leave RWY31 to RWY22, but according to delayed clearance of the EC TWR, they were taxiing to the TWY Delta. The expected release of RWY31 was therefore delayed.

At the distance of 4.1 NM of the OK-TVO from THR RWY31, the EC TWR Štefánik allowed the EI-FOO crew to enter RWY31. It was shortly after the KLJ3076 had landed on RWY31. The EI-FOO crew had to wait for take-off clearance as RWY31 was not clear.

The OK-TVO crew was instructed to reduce their approaching speed. At the time the instruction was issued, the OK-TVO was 2.8 NM from THR RWY 31.

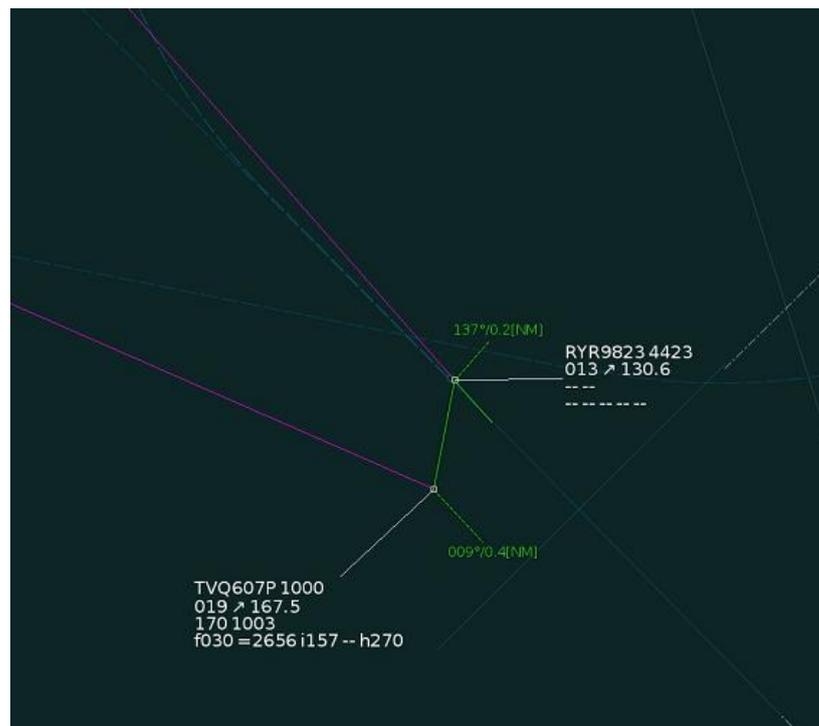
At the time of release of RWY31, the EC TWR issued a take-off clearance to the waiting EI-FOO crew on THR RWY31, and the OK-TVO crew received information about the expected delayed landing clearance. At this time, the OK-TVO aircraft was 1.3 NM from THR RWY31.

At a height of 400 ft, the OK-TVO crew observed the start of the EI-FOO on RWY31. There was no instruction from the TWR for the EI-FOO to 'hold position' or for the OK-TVO to "Go around".

For this reason, the OK-TVO crew started to turn left immediately to get off the taking-off runway of the EI-FOO and performed the "Go around".

EI-FOO took off according to plan. The first radar record of the flight in E2000 was displayed at 07:24:10 as a non-correlated target after take-off.

At 07:24:13, the EI-FOO flight was displayed in E2000 as a correlated target with A013.



Time period: day  
Flight rules: IFR

## 1.2 Injuries to persons

No injuries.

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**1.3 Damage to the aircraft**

No damage.

**1.4 Other damage**

No circumstances have been reported to the Aviation and Maritime Investigation Authority which might lead to any other claims for compensation of damage against a third party.

**1.5 Personnel information**

**Air Traffic Controller**

citizen of the Slovak Republic, 41 years of age, holder of an air traffic controller license issued on 31/01/2007 by the Civil Aviation Authority of the Slovak Republic.

**Qualification:**

APS/Approach Control Surveillance with marked validity until 31/01/2020.

**1.6 Aircraft information**

N/A

**1.7 Meteorological information**

N/A

**1.8 Aids to navigation**

N/A

**1.9 Communications**

Aircrafts were equipped with a radio communication device that enables two-way radio communication at any moment of the flight with all aeronautical stations.

**1.10 Aerodrome information**

LZIB is international public civil airport. Concrete RWY 13/31 with dimensions 3190 x 45 m and 04/22 with dimensions 2900 x 60 m are used for aircraft operation. NOTAM was issued at the time of the occurrence

C0965119 **RWY**

FROM 14-MAY-2019 09:55 TILL 01-JUN-2019 14:00

RWY 04/22 BETWEEN THR RWY 22 AND RWY 13/31 CLOSED.

**RWY 04/22 BETWEEN RWY 13/31 AND TWY AND USABLE FOR TAXIING**

RWY 04/22 BETWEEN TWY AND THR RWY 04 USABLE AS PARKING AREA.

**1.11 Flight recorders**

For documentation purposes, records from objective control means from the TWR Štefánik air traffic services unit were used. Participants in the occurrence submitted written statements.

**1.12 Wreckage and impact information**

N/A

**1.13 Medical and pathological information**

N/A

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**1.14 Fire**

None.

**1.15 Survival aspects**

It was not necessary to perform any search or rescue with SAR equipment.

**1.16 Tests and research**

N/A

**1.17 Organizational and management information**

The state enterprise Letové prevádzkové služby Slovenskej republiky is the provider of air navigation services in airspace and on assigned aerodromes of the Slovak Republic. It carries out its activities on the basis of an authorization issued by the Ministry of Transport.

**1.18 Additional information**

AIP SR, section GEN 1.5.2, provision 1.5.2.3.4 sets out the following obligation for crews:  
"SSR transponder shall be operational in the Mode S or Mode C before aircraft's take-off."

AIP SR, section ENR 1.6, provision 1.6.2.3.1.2 specifies:

"A pilot-in-command of an aircraft departing from aerodromes in the Slovak Republic may switch the transponder from position "STANDBY" to position "ON" immediately before take-off".

AIP SR, section AD, provision 1.1.1.4.9.5.4:

"If the pilot-in-command has not received taxi instructions from TWR, he can leave the RWY using any serviceable TWY according to his choice, whereby pilot-in-command is not allowed to taxi back track on the RWY without clearance from TWR. After leaving RWY he may continue to taxi only if he obtained taxi clearance from TWR."

Pursuant to L4444, Title 4, provision 4.6.3.7:

"Speed adjustment shall not be applied to an aircraft being in the final approach and passing a point 7 km (4 NM) from the RWY threshold".

Pursuant to L4444, Title 7, provision 7.10.3.1 c):

"If necessary or desirable to speed up operations, a landing aircraft may be required to leave the runway by the designated taxi runway".

**1.19 Useful or effective investigation techniques**

Common investigation methods were applied.

## **2 ANALYSIS**

### **2.1. The OK-TVO crew activity**

The OK-TVO crew was performing an ILS approach for RWY31 at LZIB. It was a standard flight until the crew had to perform the non-standard missed approach procedure in order to maintain safe separation with the EI-FOO.

### **2.2. The EI-FOO crew activity**

The EI-FOO crew was taking off from RWY31 at LZIB. The take-off was performed in a standard manner according to valid take-off procedures. The crew learned of the situation by requesting an explanation of the occurrence.

### **2.3 EC TWR activity**

The EC TWR underestimated some of the factors that must be taken into account by ATCO during ATC (tailwind, wet runway with puddles of water, speed reduction of the KLJ3076 after a run-out and during release of RWY). Indecision and inaction of EC TWR in the escalation of the operational situation contributed to the occurrence of this serious incident.

Taxiing instructions were issued by the EC TWR after the flight KLJ3076 landed, in the position almost at the RWY22 intersection. Regarding the issued Notam C965/19, the crew might have intended to leave RWY31 to RWY22 (AIP SR, Section AD, provision 1.1.1.4.9.5.4).

Although the EC TWR Štefánik did not issue a landing clearance to the OK-TVO, in this case he did not have "reasonable assurance" that the required distance would be complied with, i.e. that the KLJ3076 landing aircraft would leave the RWY31 after landing and the departing aircraft EI-FOO would not cross the end of RWY31 in front of him. The EC TWR did not respond adequately and allowed the OK-TVO crew to fly over THR RWY31 while the EI-FOO was in its take-off phase on RWY31.

The EC TWR Štefánik did not issue a landing clearance for the OK-TVO on RWY31, but did not he instruct or describe to the crew in a critical situation to perform a non-standard procedure of missed approach to RWY31, as he did not revoke the take-off clearance for the EI-FOO. The OK-TVO crew performed a non-standard procedure of missed approach based on visual observation of the EI-FOO taking-off operation and TWR Štefánik radio communication.

Contrary to Regulation L4444 (Title 4, provision 4.6.3.7) defining that speed adjustment shall not be applied if an aircraft passed a point 4 NM away from the THR RWY, the EC TWR Štefánik instructed the OK-TVO crew to reduce the approaching speed to minimum when the aircraft was already 2.8 NM from the THR RWY31.

The EC TWR Štefánik, being aware of the conditions on RWY31 (RWY wet with puddles of water), could have applied the code and asked the crew to leave RWY31 through suitable TWY (Delta, Foxtrot) while approaching the KLJ3076 (L4444, Title 7, provision 7.10.3.1 (c)).

The EC TWR Štefánik did not give the OK-TVO or EI-FOO crew any order that would eliminate the reduction of minimum distances and ultimately prevent the risk of collision. The OK-TVO crew initiated a manoeuvre to avoid the risk of collision at their own discretion.

EC TWR declared a request to leave RWY31 too late, almost before RWY22. Thus, the KLJ3076 crew slowed down the taxiing speed twice (before RWY22 and before the TWY Delta) and thereby left RWY31 later and thereby a take-off clearance for the EI-FOO was issued later and the distance between OK-TVO and THR RWY31 was reduced.

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### **3 CONCLUSIONS / Cause of the serious incident**

#### **3.1 Findings**

- the flight activity was performed in accordance with the flying rules valid in the Slovak Republic,
- no injuries were caused,
- no damage to the aircraft occurred.

#### **EC TWR**

- had valid documents and qualifications to perform the given activity.

#### **3.2 Causes of the serious incident**

- failure to comply with the determined conditions to ensure distance,
- underestimation of tailwind factors and conditions on RWY31,
- late decision-making and inaction by EC TWR Štefánik in the escalation of the situation.

### **4. SAFETY RECOMMENDATIONS**

The Final Report on safety investigation of the serious incident does not contain any recommendations.

In Bratislava, 06/04/2020