

*The original of the Final Report was issued in the Slovak language.  
In case of inconsistency original version in Slovak language is applicable.*



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

# FINAL REPORT

on investigation of serious incident  
civil aircraft flying over the active military area "ZUZANA"

Reg. No. SKS2015003

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.

## Used abbreviations

ACC	Area Control Centre
AFTN	Aeronautical Fixed Telecommunication Network
APP	Approach Control Service
AC/APP	Assistant Air Traffic Controller for APP
AMC	Airspace Management Cell
AUP	Airspace Use Plan
ES/ACC	ACC Executive Supervisor
ES/OAT	OAT Executive Supervisor
FDO/AMM	Flight Data Operator/Assistant Message Management
FL	Flight Level
ft	feet (dimensional units)
GAT	General Air Traffic
GND	Ground
LZR	Restricted areas
OAT	Operational Air Traffic
PC	Procedural Controller
PIB	Pre-flight Information Bulletin
RC	Radar Controller
RS VTSÚ	Firing/shooting controller
UNL	Unlimited
UTC	Co-ordinated Universal Time
VTSÚ	Vojenský technický skúšobný ústav / Military Technical and Testing Institute

## A. INTRODUCTION

Type of operation: GAT  
Place of incident: active area "ZUZANA"  
Date and time of serious incident: 07.04.2015, 06:06 - 07:08

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

## B. INFORMATIVE SUMMARY

On 07.04.2015, at the time of activation of the military area indicated in the report NOTAM C0759, seven GAT aircraft flew over this area.

The following commission was appointed for investigation of the incident:

Ing. Igor BENEK	– chairman of the investigation commission
Ing. Zdeno BIELIK	– member of the investigation commission
pplk. Ing. Ladislav DOSPIVA	– 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 History of the flight

On 06. 04. 2015, at 11:00, AMC – Slovak Republic sent AUP 097 valid from 07.04.2015 06:00 to 08.04.2015 06:00, indicating among others the following:

A0758/15	MILITARY ACTIVITY		
	GND	8000FT AMSL	06:00 08:00
A0759/15	MILITARY ACTIVITY		
	8000FT AMSL	UNL	06:00 08:00

FDO/AMM in accordance with the Regulations on service operation at ACC Bratislava applied through AFTN for PIB, which was delivered to ES/ACC at **04:56**.

This PIB displayed among others NOTAM C0758 and NOTAM C0759:

C0758/15 LZBB PROH/REST  
FROM: 150407 06:00 TILL: 150413 08:00  
D) 07 08 13 0600-0800  
E) FLIGHT BAN - MILITARY OPERATION GOING ON IN THE AREA:  
(483210N 0170030E) - (482520N 0170930E) - (484410N 0173530E) -  
(484530N 0173140E) - (483210N 170030E).  
F) GND  
G) 8000FT AMSL)

C0759/15 LZBB MIL AREA  
FROM: 150407 06:00 TILL: 150413 08:00  
D) 07 08 13 0600-0800  
E) MILITARY OPERATION GOING ON IN THE AREA: (483210N 0170030E)  
- (482520N 0170930E) - (484410N 0173530E) - (484530N  
0173140E) - (483210N 0170030E).  
IN ORDER TO AVOID THE ACTIVATED MILITARY AREA PLEASE WAIT FOR TACTICAL  
COMMAND AS FOLLOWS:  
A4, M/UM748 - THROUGH LALES TO VOR NIT FLIGHTS TO THE  
EAST FROM FIR PRAGUE,  
P/UP10 - THROUGH VOR JAN TO LALES FLIGHTS TO THE WEST FROM FIR BRATISLAVA,  
UZ650 - THROUGH LALES TO BALAP LETY TO THE EAST FROM FIR PRAGUE.  
ARRIVALS TO LZIB OR LZPP THROUGH ODNEM OR MAVOR WILL BE DIRECTED  
THROUGH LALES TO VOR NIT UNLESS THE RESPECTIVE ATC PERMITS OTHERWISE.  
DEPARTURES FROM LZIB OR LZPP THROUGH ODNEM OR MAVOR WILL BE DIRECTED BY THE  
RESPECTIVE ATC TO LALES.  
ARRIVALS TO LHBP THROUGH ODNEM CAN BE REDIRECTED THROUGH LANUX, DVOR STO  
TO MAREG. RECOMMENDED ROUTE UL175: DVOR STO UL175 MAREG L/UL175  
ANEXA, UNLESS THE RESPECTIVE ATC PERMITS OTHERWISE.  
DEPARTURES FROM LHBP THROUGH MAVOR OR ODNEM CAN BE REDIRECTED THROUGH  
ABITU TO LALES UNLESS THE RESPECTIVE ATC PERMITS OTHERWISE.  
F) 0FT AMSL  
G) UNL)

From the aforesaid it results that the new/daily ES/ACC taking the duty had at his disposal the following documents relating to the incident:

- valid AUP
- valid PIB
- Agreement on Coordination of Operations in the Test Area "ZUZANA" ("Agreement")
- List of valid NOTAM messages of series A and C 01 APR 2015 published via the intranet.

At 05:48:23 OAT delivered to AC/APP Štefánik information about activation of the areas LZR 113AB, LZR 213AB, and 313AB up to FL 520.

At 06:02:49 "Malacky" informed AC/APP Štefánik about activation of the areas LZR 113 213 and 313 AB up to FL520 (\*the caller introduced himself like this).

At 06:06:09 OAT informed ES/ACC about activation of the areas indicated in the NOTAM messages C0758 and C0759. These NOTAM messages were available to ES/ACC on its workplace.

The NOTAM messages C0758 and C0759 contained the coordinates defining areas with identical geographic points. The area indicated in NOTAM C0758 was defined vertically from GND up to 8000 ft and the area indicated in NOTAM C0759 was defined vertically from 8000 ft to UNL.

These NOTAM messages mentioned that these areas would be used for military operations. The coordinates indicated in the NOTAM messages were identical with coordinates of the area "ZUZANA" mentioned in the Agreement and with the area defined in the system E2000 marked "ZUZA". In spite of the military operation from GND - UNL with need of bypassing, ES/ACC did not verify the horizontal boundaries of the defined areas and, according to their statement, they identified them with areas LZR 113AB, 213AB and 313AB. However, the messages did not contain information about activation of the area "ZUZANA".

In accordance with the Agreement (Article 4.1) a member of the communication team of VTSÚ was present at OAT, who maintained direct communication between RS VTSÚ and ES/OAT.

At 06:46 the communication team manager, who is responsible for communication between RS VTSÚ and OAT, informed ES/OAT by phone that they had observed aircraft flying over the area before taking the fire position; ES/OAT responded that the area was closed as far as to Hlboké. The communication was ended by information from the communication team manager that fire was opened from the fire position over Myjava.

In its statement ES/OAT claims that immediately after the reception of the call from the communication team manager of VTSÚ he delivered information about aircraft flying over the area under fire to ES/ACC, but the latter still had not realized that the area with shooting going on was not identical with the areas LZR 113AB, LZR 213AB and LZR 313AB. The information exchange between OAT and ACC did not take place by phone, therefore it is not recorded.

At 07:03 the communication team manager re-established communication with OAT and informed them that the situation with aircraft flying over the area persisted. After this call, at 07:04:45, the conversation between an employee of OAT and PC or RC about the area "ZUZANA" was recorded by ambient microphones of the "U" centre. Afterwards, PC or RC requested ES/ACC to show this area on situation displays E2000.

At 7:08 ES/ACC activated the area marked "ZUZA" in the system E2000/OPSUP (figure No 1) and at 7:08:10 an area identical with the area indicated in the NOTAM message C0759 appeared on the display of RC/U (Figure No. 2).

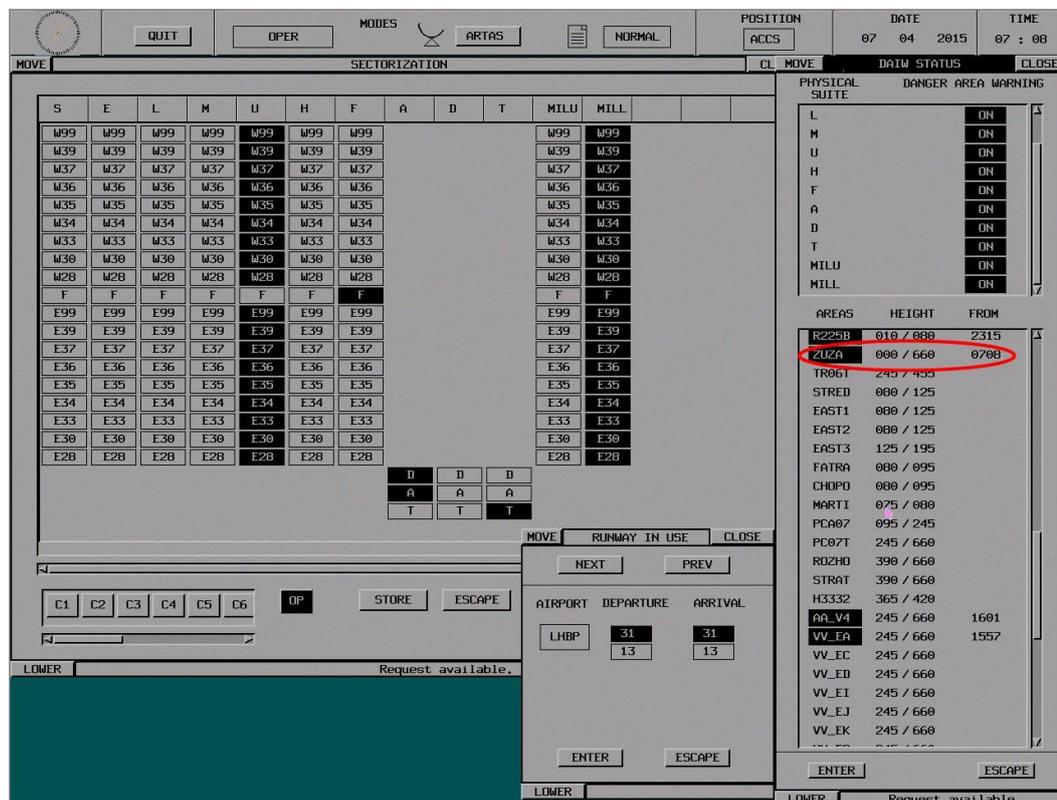


Figure No. 1



Figure No. 2

From the recorded communication between ES/ACC and ES/OAT it is clear that even the OAT controller did not know that the area “ZUZANA” was activated; he was informed about it after the telephone call from the firing range of VTSÚ.

Between 06:06:09, when OAT informed ES/ACC about activation of the areas indicated in the NOTAM messages C0758 and C0759, and 07:08:10, when ES/ACC activated the area marked “ZUZA” in the system E2000/OPSUP, seven aircraft flew over this area.

Daytime: day

**1.2 Injuries to persons**

No injuries to persons were reported.

**1.3 Damage to aircraft**

N/A.

**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**

N/A.

**1.6 Information about aircraft**

N/A.

**1.7 Meteorological situation**

N/A.

**1.8 Aids to navigation**

N/A.

**1.9 Communications**

The communication between VTSÚ and OAT was maintained in accordance with the Agreement.

#### 1.10 **Aerodrome information**

N/A.

#### 1.11 **Flight recorders**

Flights recorders of LPS SR, š.p. and VTSÚ were used.

#### 1.12 **Wreckage and impact information**

N/A.

#### 1.13 **Medical and pathological information**

N/A.

#### 1.14 **Fire**

No fire broke out.

#### 1.15 **Survival aspects**

N/A.

#### 1.16 **Tests and research**

N/A.

#### 1.17 **Organizational and management information**

N/A.

#### 1.18 **Additional information**

N/A.

#### 1.19 **Useful or effective investigation techniques**

Standard investigation methods were used.

## **2. ANALYSIS**

Although ES/ACC had required information about activated areas LZR 113AB, LZR 213AB, LZR 313AB as well as the NOTAM messages C0758 and C0759, indicating the times and horizontal and vertical boundaries of the activated area ("ZUZANA"), he associated it with the areas LZR 113AB, 213AB and 313AB and did not ensure bypassing of this area. OAT did not help him to gain better orientation, because they probably had not been fully clear about the situation, although OAT has to play the role of coordinator between RS VTSÚ and ES/ACC in accordance with the Agreement. The incident would probably have not occurred if the area had been designated "ZUZANA" in the NOTAM messages. If ES/OAT reacted to the warning from the military fire controller earlier, i.e. already after the flight of the first aircraft over the activated area, ES/ACC could have prevented the passage and potential threatening of further aircraft.

## **3. CONCLUSIONS / CAUSE OF SERIOUS INCIDENT**

### **3.1 Findings**

- When taking the duty ES/ACC had at his disposal all required documents relating to the flight operation.

- VTSÚ observed the coordination procedures in accordance with Article 5.5 of the Agreement.
- Although at **06:06:09** OAT informed ES/ACC about “...activation of messages...” NOTAM C0758 and C0759, neither ES/ACC nor OAT realized that the area defined in the NOTAM messages C0758 and C0759 was not identical with the areas LZR 113AB, 213AB and 313AB. It is obvious from the conversation held at **07:12:54** between OAT and ES/APP.
- The NOTAM message only mentioned coordinates of the shooting area, without naming the area “ZUZANA”.

### **3.2. Causes of serious incident**

#### **Main cause of serious incident**

The permission of the flight over the active area “ZUZANA” given to the aircraft as a result of inadequate knowledge by ES/ACC of valid limitations of the airspace / PIB.

#### **Contributing factors:**

- In NOTAM messages the area was only defined by coordinates and it was not called “ZUZANA”;
- ES/OAT did not inform APP Štefánik about the activation of the area “ZUZANA” (Article 5.3 of the Agreement);
- ES/OAT did not inform ES/ACC about the flight of aircraft over the active area “ZUZANA”, although he had this information.

## **4. SAFETY RECOMMENDATIONS**

On the basis of investigation of the serious incident

Flight of civil aircraft over the active military area “ZUZANA”

Date of incident: **07.04.2015**

#### **We recommend implementing the following measures:**

##### **LPS SR, š.p., VTSÚ, OAT**

To update the Agreement on Coordination of Operations in the Test Area “ZUZANA”.

##### **LPS SR, š.p.**

To implement recommendations contained in the final report to this incident from internal investigation by LPS SR, š.p.

##### **OAT**

- To analyse the incident;
- To take their own measures.

##### **VTSÚ**

- To inform the interested employees about findings of this final report;
- In case of observation of aircraft in the shooting area to immediately stop the fire until clarification of the situation.

Bratislava, 02.12.2015